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Innovation-led value creation and professionalising innovation

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Lessons from a decade of the IKE Institute





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■ Monday 18th or Tuesday 19th May (TBC)

Presentation of the STEM for BRITAIN Westminster Medal

5.00pm to 5.15pm

DISCUSSION MEETING

In partnership with the Nuffield Council on Bioethics

5.15pm to 6.30pm, Palace of Westminster

Chairman's Reception 6.45pm to 7.30pm, One Parliament Street

■ Tuesday 9th June

DISCUSSION MEETING

In partnership with The Physiological Society

5.15pm to 6.30pm, Palace of Westminster

Chairman's Reception 6.45pm to 7.30pm, One Parliament Street

■ Tuesday 30th June

ANNUAL LUNCHEON

Speaker: Professor Liz Bentley, CEO, Royal Meteorological Society

12.15pm to 2.30pm, House of Lords

■ Tuesday 8th September

DISCUSSION MEETING

In partnership with the UK Photonics Leadership Group

5.15pm to 6.30pm, Palace of Westminster

Chairman's Reception 6.45pm to 7.30pm, One Parliament Street

■ Tuesday 13th October

DISCUSSION MEETING

In partnership with the Chartered Institute of Patent Attorneys

5.15pm to 6.30pm, Palace of Westminster

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Sam Carling MP
Chair, Parliamentary & Scientific Committee

A warm welcome to our Spring Edition.

This issue comes following a very successful annual STEM for Britain event. Turnout was excellent, and it was delightful to meet so many early-career researchers who were invariably passionate about and dedicated to their work. Huge thanks across the board to everyone who helped make the event a success, and to the many MPs who came along to meet their constituents and hear about some of the fantastic research being done.

As the weather gets warmer, I'm excited to set out what we have in store for the season ahead. We're partnering with the Nuffield Centre of Bioethics for an event on embedding ethics across the innovation lifecycle. The Physiological Society, celebrating its 50th anniversary, will be discussing worker safety in extreme heat. And to cap things off before the summer recess, we have the annual lunch.

This edition is full of fascinating articles I am sure you will enjoy reading. We have contributions on a range of topics: micronutrient malnutrition; climate change; careers in STEM; a sustainable marine economy; innovation in food; the neurotechnology ecosystem; the IKE institute; and a national approach to AI assurance.

As usual I want to thank Leigh, Karen, Kinga, and everyone who ensures the oldest APPG remains among the best.

I hope you enjoy our Spring Edition.

Sam

EDITOR'S NOTE

Warmest congratulations to the 120 finalists who presented their excellent research work at STEM for BRITAIN 2026, and to the 17 winners, whose pictures appear on the back cover page of this edition. My thanks to Sam Carling MP for his remarks and Viscount Stansgate for introducing the speakers and announcing the winners, the 50 Parliamentarians who attended the event, the Learned Societies and Sponsors for generously supporting this year's competition, and to the judging panels for all their work.

I am also grateful to the STEM Team: Dr Isabel Spence, Karen Smith, John Slater, Julie Spencer, Sue Wharton, Allington Smith, Steve Smith, Emma Emmerton, Roger Brown and Sarah Brown, and our photographer John Deehan, for helping to make the day such a success.

I would like to extend a warm welcome to our new P&SC members:

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Journal of the Parliamentary and Scientific Committee (All-Party Parliamentary Group)

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Science in Parliament has two main objectives:

Inform the scientific and industrial communities of activities within Parliament of a scientific nature and of the progress of relevant legislation

Keep Members of Parliament abreast of scientific affairs

Innovation-led value creation and professionalising innovation:

Lessons from a decade of the IKE Institute

The UK has no shortage of ideas, research excellence and ambitious industrial strategies. The harder, more persistent challenge is conversion: turning invention into diffusion, diffusion into productivity, and productivity into better jobs, resilient public services and sustainable growth. That conversion problem is, at its heart, an innovation management problem.

Over the past decade, the Institute of Innovation and Knowledge Exchange (IKE Institute) has contributed to addressing this problem, by treating innovation not as a lucky outcome of “creative genius”, but as a recognised, professional discipline with standards, competencies, assurance mechanisms and career pathways. The Institute is the UK’s only professional body for innovators, established in 2011 with a Government mandate to ensure innovation is professionalised and seen as an established discipline requiring skills and competency development.

This article reflects on what “Innovation-Led Value Creation” looks like in practice, and what can be learned from the IKE Institute’s programmes, interventions and support to business, education and government over the last decade.

Value creation: from novelty to outcomes

Innovation-led value creation shifts emphasis away from novelty alone and towards repeatable delivery of outcomes that matter – commercially, socially and strategically. It depends upon having the capability to define the right problems, assess readiness, run balanced portfolios, measure impact, and learn fast enough to adapt in uncertain times or in regulated environments.

Professionalising innovation: why standards and assurance matter

The IKE Institute’s core premise is explicit: innovation is a discipline that can be

learned, embedded and measured. In practice, this responds to two realities: organisations face continuous disruption (making ad hoc innovation insufficient), and innovation standards are increasingly being used as reference points for governance and capability building. The Institute has been active in the Standards communities including the British Standards Institution (BSI) and the International Standards (ISO), ensuring clarity and application of innovation standards.

The practical implication is straightforward. If innovation is central to competitiveness and public value, it should be treated as a capability that can be assured – much like safety, cybersecurity or financial governance.

Innovations Standard: benchmarking capability, not just activity

A flagship IKE Institute intervention has been its Investor in Innovations Standard (I3), recently aligned to the new ISO Innovation Management Standards. The I3 positions innovation as a strategic driver of growth and provides a structured way for organisations to assess, benchmark and validate innovation capability. In essence, I3 uses its six-category framework from Strategy and Alignment and Organisational Readiness through to Customer Focus and Impact and Value, to produce an independently validated profile and a practical Innovation improvement plan.

Since 2011, the I3 Standard has been applied in companies, educational



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institutions and government bodies, providing a shared structure for improvement discussions in very different contexts and sectors.

Two features are especially relevant to innovation-led value creation. Firstly, a holistic-system lens: the framework helps prevent over-focus on ideation whilst neglecting governance, capability development or impact measurement. Secondly, actionability: outputs are designed to guide further improvement, not simply confer recognition.

Case study: innovation assurance in national security

Innovation assurance can sound abstract until it is applied in a high-stakes settings. A notable example discussed in a previous Science in Parliament edition, is the Defence and Security Accelerator’s (DASA) journey to achieve I3 Standard Accreditation.

From 2019, DASA undertook a multi-year assessment and was validated as “Best Practice” in all six categories in June 2023. The case highlighted growth in supported projects and a strong emphasis on “impact and value”, including DASA’s role in supporting small and medium-sized enterprises. An independent government note also records DASA’s recognition as an “Investor in Innovations” organisation.

For Policy Makers, this matters because it shows innovation management can be audited longitudinally (not merely celebrated retrospectively) and connects

innovation discipline directly to national outcomes – security capability and economic prosperity.

Digital maturity assured: connecting innovation to transformation

Innovation is now inseparable from digital transformation. The IKE Institute's Digital Maturity Assured (DMA) framework provides a structured assessment of digital readiness and balance, either as a stand-alone or as an extension to I3 Standard. The Institute has also applied this approach through its digital transformation work with NATO's Allied Command Transformation, translating data-centric principles into practical capability development and education for leaders.

Through Assessing Digital Maturity in Colleges (ADMIC), a pan-European project IKE Institute contributed, institutions in the UK and across Europe can assess and benchmark their Digital Maturity, identify gaps and follow actions guided by an online learning programme and guides.

Building professional capability: people, ethics and continuing development

Professionalisation is not only about organisational assurance; it is also about people. The IKE Institute operates professional membership grades – including Member (MIKE) and Fellow (FIKE). It sets expectations around Continuing Professional Development, typically encouraging at least 20 hours a year, and references a Code of Ethics as part of its professional norms.

Accredited learning pathways: certifying programmes as well as people

The Institute extends this approach into education and workforce development. Its Certified Innovation Programme IKE Assured Accreditation is positioned as a way to align organisational training in innovation with recognised standards; with routes to professional recognition. Alongside of this, the Institute provides executive education and certified training – such as the Certificate of

Professionalism in Innovation Practice at Practitioner and Leader levels – covering practical methods spanning strategy, culture, governance, ecosystem, experimentation and measurement.

Place-based professionalisation: innovation embedded in regional institutions

A particularly important feature of the last decade has been the Institute's place-based model: embedding professional innovation capability through its regional branches and anchor institutions. IKE Branches hosted within further and higher education institutions such as City of Glasgow College, Birmingham City University and South West College in Northern Ireland, help connect business support, skills development and knowledge exchange, taking professional standards into local ecosystems where diffusion and adoption often lag.

Professionalisation is not only about organisational assurance; it is also about people.

Scotland provides a useful illustration. City of Glasgow College's hosting of the Scottish Institute of Innovation and Knowledge Exchange is described as an effort to "democratise innovation" by making it accessible, structured and professionally recognised. Since the Scottish IKE launch in 2017, the partnership reports applied innovation projects, multi-million-pound revenue and project funding, and professionally accredited innovation programmes delivered to hundreds of industry participants. The broader point is that real value is created when innovation becomes a repeatable capability, built through training, diagnostics, standards and delivery infrastructure, not just one-off competitions or short-term pilots.

Strengthening education-to-economy pipelines: STEM assured and Skills

Innovation capability ultimately depends on skills, particularly in Science, Technology, Engineering and Mathematics. The IKE Institute's wider ecosystem includes the STEM Foundation, which uses accreditation

as a lever for improving STEM provision. STEM Assured is positioned as an industry-backed benchmark of excellence, and updates describe its use across more than 130 institutions with reported impact on over 700,000 STEM learners.

Knowledge exchange as a practical discipline

Innovation does not happen in isolation; it relies on knowledge exchange – the structured sharing of experience, evidence and insight across organisational boundaries. This is reflected in the Institute's research and its platforms such as the brite Innovation Review, and in its applied initiatives such as Creative Engine and the impACT online tool for improving innovation in Construction.

Lessons learned from a decade of professionalising innovation

Three lessons stand out:

1. **Treat innovation capability as assurance-worthy.** Where innovation is central to mission delivery, it should be benchmarked and continuously improved, using recognised standards and disciplined assessment.
2. **Invest in professional pathways, not only projects.** Funding individual innovation projects without building skills, governance and learning systems creates fragile gains. Professional recognition, continued development and accredited learning help build durable capability.
3. **Use anchor institutions to diffuse innovation skills.** Regional branches embedded in colleges and universities connect education, business and public services, supporting regional adoption as well as invention.

Across the last decade, IKE Institute's central contribution has been to shift the question from "How do we get more innovation?" to "How do we make innovation repeatable, so it consistently creates value?" In a period defined by accelerating disruption, that shift may be one of the most practical routes to improving productivity, resilience and public outcomes.

Hidden hunger in the UK:

The overlooked crisis of micronutrient malnutrition



Andrew Stronach
Head of External Relations,
Quadram Institute

The UK faces a growing crisis of 'hidden hunger', where diets high in calories but low in essential nutrients are undermining health. As debate focuses on ultra-processed foods and obesity, widespread micronutrient deficiencies remain overlooked, demanding a fundamental rethink of how we approach food and public health.

The shift from nutrient quality to calorie quantity in the UK food system

The significant public health challenges posed by the food system in the UK have been widely debated and the concept of ultra-processed food has dominated discourse over recent years.

The significant public health challenges posed by the food system in the UK have been widely debated and the concept of ultra-processed food has dominated discourse over recent years.

Our research indicates that society's focus on macronutrients (carbohydrates, proteins and fats) masks significant public health problems driven by deficiency in the micronutrients which are vital for good physical and mental health.

Since the second world war, our focus on food as energy (growers select breeds based on yield and disease resistance and not on nutrient quality) has obscured the role vitamins and minerals (micronutrients) play in maintaining good health, and conversely, the critical role their absence plays in ill health and disease.

Hidden hunger: the growing burden of micronutrient deficiency

Micronutrients are critical to the healthy mental and physical development of children and to maintaining good health, especially in older age. Micronutrient malnutrition, also referred to as 'hidden hunger', is a growing public health issue. Many people lack essential micronutrients

such Iron, Potassium, Selenium, Vitamin B12, vitamins A, C, D, E and K, and folate. These play a development role in every organ and body system, including energy production, immune function, brain development, skeletal growth and maintenance, and metabolism.

The UK is now the sick man of western Europe. We have the lowest Healthy Life Expectancy (HLE) in western Europe and life expectancy in the UK has fallen over the past decade meaning more people spend more of their lives in poor health. For females in England, HLE is now only 61.9 years and 61.5 for males.

Micronutrient deficiencies, particularly in iron, zinc, iodine, and vitamin B12 and vitamin D, are prevalent in the UK, especially in South Asian and Black communities, low-income and elderly populations:

- 25% of women have low iron intake
- 16% of adults have low vitamin D status and 19% of children aged 11 to 18
- Vitamin B12 and folate deficiency affects more than 20% of the over 60s

Our research at the Quadram Institute indicates that these levels of insufficiency or deficiency in micronutrients are higher than we might think. Research by Dr Emma Webb, a clinical research fellow at the Quadram Institute and Consultant Paediatric Endocrinologist at the Norfolk and Norwich University Hospital, reveals that of 120 children in a specialist obesity clinic, 80% had deficiency/insufficiency of at least one key micronutrient.

Emerging risks and the need for systemic change in diet and health policy

Much hope is being held out for the new GLP-1 agonists (for example, Mounjaro and Ozempic) that promote weight loss and reduce appetite. Weight loss will certainly help improve people's health but the problem of micronutrient malnutrition may well remain.

This is an issue the food and drinks industry is grappling with. People's appetite for food (and alcohol) drops and buying habits change when they are taking GLP1 agonists. But if you are not eating a balanced nutritional diet and you are just eating less food, you may still be lacking key micronutrients essential for your physical and mental health.

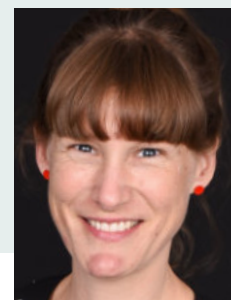
As a result, the food industry and supermarkets are increasingly looking at 'nutrient dense' products specifically for people who are on GLP1 agonists. Smaller portions but packed with nutrients. For those that can afford such products this may help but at a UK population level this is unlikely to be a viable option for many people.

For the sake of the health of the nation, we really need to quantify and understand the problem of micronutrient malnutrition, the role it plays in chronic health conditions and work with the government and industry to address hidden hunger.

Alternative proteins as a sustainable and domestic source of food supply



Dr Julian Braybrook
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Imperial College London; Co-
Investigator, Imperial Bezos
Centre for Sustainable Protein

The UK's food system is under growing pressure due to changing climate, agricultural soil degradation and geopolitical instability^{1,2} Concurrently, the UK's growing population needs increased access to a high-quality diet.

Currently, livestock-based food production provides the bulk of high-quality protein and nutrients, but has significant environmental impacts and relies on global supply chains that are increasingly vulnerable to disruption² (Figures 1a and 1b). Specifically, in 2023, the agricultural sector accounted for ~11% of UK national greenhouse gas emissions³ and ~42% of food and animal feed was imported. This vulnerability prompted UK stakeholders to explore more sustainable and resilient ways to produce food, known collectively as alternative proteins.

Alternative proteins are a broad group of foods designed to provide the nutritional value and taste functions of conventional animal-based products, particularly protein, that have the potential to be produced domestically and reduce environmental impact.^{2,4} These include plant-based proteins, cultivated meat grown from animal cells and microbial foods produced through fermentation.⁴

Microbial food production, opportunities and challenges

Microbial foods are foods and ingredients produced using microorganisms such as yeast, fungi, algae or bacteria.⁵ These organisms can transform raw materials into edible products through biological processes used by humans for thousands of years. Many familiar foods, including bread, yoghurt and cheese, are produced through traditional fermentation. However, recent biotechnological advances allow microorganisms to produce entirely new food ingredients

or high-protein biomass. In biomass fermentation, the microorganisms themselves are grown as the food product – one well-known example is mycoprotein, produced from filamentous fungi and commercialised by Quorn. In precision fermentation, microorganisms act as 'cell factories' engineered to produce molecules such as milk proteins, fats or enzymes used in food products.

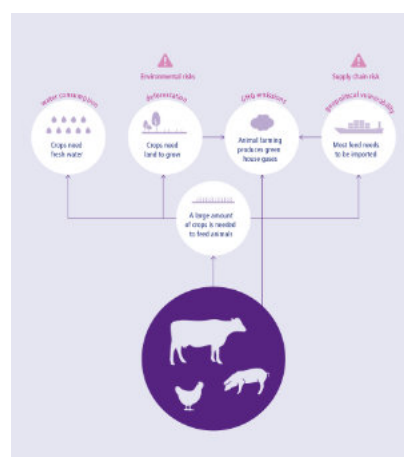
Fermentation-based food production runs in controlled environments, relying on simple inputs like sugars or agricultural by-products. The UK could source many ingredients domestically, e.g. from sugar beet, while also using food and farm waste streams, e.g. wheat bran. The potential of using carbon dioxide or industry off-gases, e.g. carbon monoxide, as a feedstock provides an opportunity to completely circumvent agriculture.^{6,7} Microbial foods are also high in protein and fibre and their replacement of some

animal-based foods could support healthier diets, by reducing the intake of saturated fats and cholesterol currently causing health issues in the UK.²

Economically, the rapidly growing alternative protein sector could drive innovation, new businesses and jobs in the UK bioeconomy.

Despite this promise, the sector faces significant challenges that limit the widespread adoption of alternative proteins, including cost, scale-up, a skilled workforce, regulation and consumer acceptance. Production at a sufficient yield and with desired texture, flavour and nutrient profiles requires substantial R&D. Further, many technologies that work well at laboratory or pilot scale face technical difficulties when expanded to industrial volumes.⁸ Consequently, early production volumes are often small, processes are still not

Figure 1a: Current food system – environmental and supply chain risks



Source: adapted from Coppens C et al. (2025).²

Figure 1b: Alternative proteins – potential to lower land use and greenhouse gas emissions

Product	Source	GHG emissions per kg protein	Land use per kg protein
Beef burger	Cow	54 kg CO ₂ e/kg	~50 m ²
Pork sausage	Pig	8.5 kg CO ₂ e/kg	~10 m ²
Chicken nuggets	Chicken	5.8 kg CO ₂ e/kg	~6.2 m ²
Mycoprotein burger, sausage, nuggets	Mycobacterium in a bio-reactor	2.4 kg CO ₂ e/kg	~2.2 m ²

optimised and many microbial foods remain more expensive than conventional alternatives.

Consumer acceptance is also critical. While fermentation is familiar in foods like bread and yoghurt, many consumers are unfamiliar with new food technologies. Alternative proteins must match or exceed existing foods' culinary qualities to succeed. Price and availability also strongly influence purchasing decisions, often outweighing environmental considerations.

Food regulation can also pose challenges for microbial food companies; particularly the length of time for market authorisation. For many alternative proteins, this process is further complicated due to the highly novel nature of the foods (e.g. cell-cultivated products) necessitating potentially new regulatory pathways. In the UK, the Food Standards Agency (FSA) has been seeking to achieve this through its regulatory innovation programme, including running a regulatory sandbox for cell-cultivated products (CCPs)⁹. Encouragingly, a new report by the FSA and Food Standards Scotland (FSS) predicts that precision and biomass fermentation, as well as cell-cultivated foods, are likely to be amongst the food innovations that will reach UK consumers within 10 years.¹⁰

Call to action

The future UK food industry is integral to assuring both a healthy and secure diet for our population and helping meet our environmental sustainability goals. Diets will continue to transition slowly from meat to plant and other alternative proteins. The UK is well-positioned to play a leading role in the development of a viable global alternative protein economy, with strong cross-sector research capabilities, an established biotechnology sector and proven track record commercialising alternative proteins. However, realisation of this opportunity critically requires:

Investment into research and scale-up: The Invest 2035, the UK's modern industrial strategy,¹¹ identified growth sectors including advanced manufacturing and the life sciences.

Continued Government investment to support the research, scale-up and

implementation of new manufacturing practices of future food technologies (including engineering biology, automation, AI and scaled process engineering) is paramount to ensuring the UK as a hub for the new agri-food revolution. It is already actively investing in alternative proteins¹² with global acknowledgement of our growing national capability in the form of the Imperial Bezos Centre for Sustainable Protein¹³, the UKRI Microbial Food Hub¹⁴ and the National Alternative Protein Innovation Centre (NAPIC).¹⁵

Investment in skills: To truly seize this opportunity, the provision of the next generation entrants to the future food supply system must be seen as a matter of national importance.¹⁶ Further and higher education funding bodies should ensure courses are well-resourced and that recurrent capital funding is protected in the long-term. A starting point is a new Master of Research in Alternative Protein offered at Imperial College London¹⁷, but high-calibre undergraduate courses and food-aware high school curricula are missing. Beyond the current GCSE Food Preparation and Nutrition, there is no A-Level in Food Science or Food and Nutrition, with previous A-levels in Food Technology and Home Economics (Food, Nutrition and Health) having been discontinued over 2016-2018. Syllabus reviews of existing Biology, Chemistry and Physics A-Levels are therefore needed to ensure inclusion of future food-related technical and sustainability challenges. The vocational post-16 Level 3 AAQ qualifications, replacing the current WJEC / Eduqas Level 3 Food Science and Nutrition widely used in schools and colleges across England and Wales, must be tailored to deliver future skills requirements.

Proportionate regulation: The FSA's Innovation Hub is working to accelerate and simplify a more proportionate regulatory process for novel foods, one which maintains the balance between food safety and ensuring consumer choice and trust. Ongoing investment in the continued innovation of such a regulatory environment is essential.

Conclusion

Alternative proteins represent a promising pathway toward a more

sustainable and resilient food system. Policymakers should shape the conditions under which new food technologies can be developed locally and adopted broadly, to effect a vibrant UK food system.

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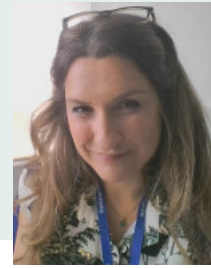
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UK marine economy:

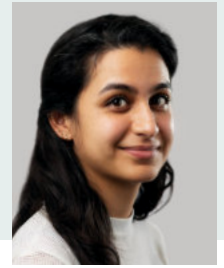
Where environmental recovery can meet economic ambition



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A different future is possible. By recognising the marine environment as a productive asset that underpins economic activity and livelihoods, we can better manage, maintain and restore it – ensuring it continues to deliver benefits for both people and the economy.

A healthy marine environment supports thriving communities

A healthy marine environment is the foundation on which coastal communities depend. When its condition declines, the impacts are felt directly in local economies, infrastructure and wellbeing.

The UK Office for National Statistics estimates that marine and coastal habitats delivered approximately £3 billion in annual value in 2022 with recreation and health benefits accounting for a significant share. These natural capital accounts demonstrate that the links between environmental condition and economic value are already measurable and significant.

Declining fish stocks undermine livelihoods. The loss of habitats such as saltmarsh reduces natural flood protection, increasing risks to homes and infrastructure. Biodiversity loss weakens the marine environment's ability to

deliver essential services, from carbon storage and climate regulation to water quality and tourism.

As an island nation, these impacts are felt early and acutely. But the reverse is also true: investment in environmental recovery can strengthen economies, from a local to national scale.

Evidence shows that marine restoration can generate substantial employment. For example, coastal restoration projects have been shown to create significantly more jobs per pound invested than traditional extractive sectors. In the UK, emerging work on seagrass restoration and habitat recovery is beginning to demonstrate similar potential – supporting jobs, skills and new career pathways across coastal communities.

A growing and increasingly complex marine economy

For a maritime nation like the UK, the challenge of utilising our marine environment sustainably is not abstract. Our economy is fundamentally connected to the ocean.

The UK's unique geography – at the boundary of the Atlantic Ocean and European shelf seas – creates highly productive and diverse marine ecosystems. These same conditions underpin major industries, including fisheries, offshore renewable energy, subsea cables, shipping and coastal tourism.

At the same time, the marine economy is expanding rapidly. Growth is being driven by the energy transition, increasing global trade, demand for digital

connectivity and pressure on food systems. Activities are moving further offshore, becoming more technologically complex, and increasingly overlapping in space.

This means we are no longer managing isolated sectors, but a crowded, interconnected system.

Marine systems do not respect administrative boundaries. Water, sediments and species move across large distances. Pressures accumulate and interact over time. What appears manageable at the scale of a single project can have very different consequences when combined with other activities.

Ecosystems can also reach tipping points, where change becomes rapid and sometimes irreversible. Recovery, if it occurs, may take decades.

This is further complicated by shifting environmental baselines driven by climate change and human activity. Sustainable growth, therefore, cannot be managed project by project – it requires a system-level perspective.

Science must underpin decision-making

Marine science is essential to navigating this complexity. It provides the evidence needed to understand ecological limits, cumulative pressures and long-term system responses.

It enables better decisions about where and how development should occur, how risks can be avoided or mitigated, and how environmental outcomes can be measured over time.

Natural Capital approach requires interdisciplinary information

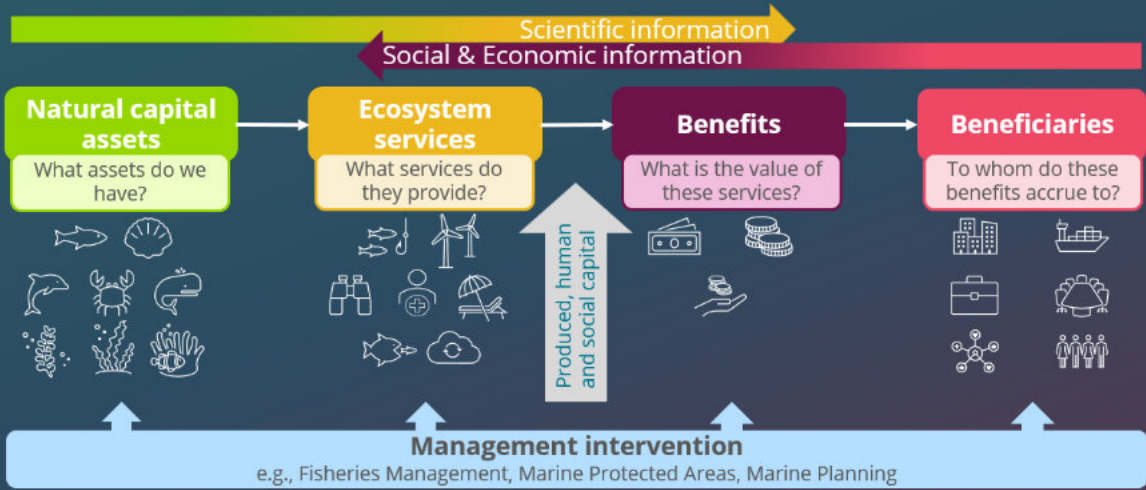


Figure 1.
The Natural Capital
Logic Chain

Image supplied courtesy
of etfec

Robust evidence helps distinguish genuine environmental improvement from symbolic protection. It avoids overconfidence in unproven solutions and ensures decisions are based on current conditions rather than outdated assumptions.

If economic development and environmental enhancement are to go hand in hand, science cannot be an afterthought – it must be the foundation.

From minimising harm to delivering environmental enhancement

Achieving this requires a shift in mindset. Environmental enhancement must mean more than reducing harm. The ambition must be for measurable improvements in biodiversity, ecosystem function and resilience.

If development is going to expand – and it will – the key question is not only where we build, but how.

Nature-inclusive design should be embedded from the outset. With the right evidence, infrastructure can support ecological function rather than degrade it. This requires site-specific understanding of species, habitats and ecosystem dynamics, as well as planning that accounts for future environmental change.

Offsetting and compensation can play a role – but only if they are scientifically rigorous. They must be:

- additional,
- ecologically equivalent (or better),
- secured for the long term, and

- used only after avoidance and minimisation.
- Done well, they can support restoration at scale – such as seagrass, saltmarsh and oyster reef recovery. Done poorly, they risk trading certain loss today for uncertain gains tomorrow.
- Marine Protected Areas (MPAs) are also essential – but designation alone is not enough. Protection must focus on areas of high ecological value, be effectively enforced, and sit within broader marine spatial planning. MPAs cannot address cumulative pressures such as climate change or pollution in isolation.

Aligning policy, finance and long-term planning

The UK is well positioned to lead in this space – but this requires clear policy direction.

To ensure the sustainable use of the marine environment public and private finance will be essential, supported by strong regulatory frameworks and emerging mechanisms such as nature markets. A natural capital approach (illustrated in Figure 1) provides a way to structure these decisions – linking environmental assets to the services, benefits and economic outcomes they support.

The HM Treasury Green Book already embeds this thinking, encouraging consistent valuation of environmental impacts across decision-making.

A UK-focused Sustainable Blue Economy Strategy, aligned with marine spatial planning, could provide the long-term certainty needed to unlock investment

and coordinate action. This should focus on the UK’s marine environment and complement, rather than duplicate, existing international programmes.

Recent government commitments to regional growth, skills and investment provide a strong foundation. A sustainable marine economy can deliver high-quality, locally rooted jobs – from marine science and restoration to offshore energy and coastal resilience.

A resilient marine economy for the future

If we are serious about aligning economic growth with environmental recovery, several principles must guide us:

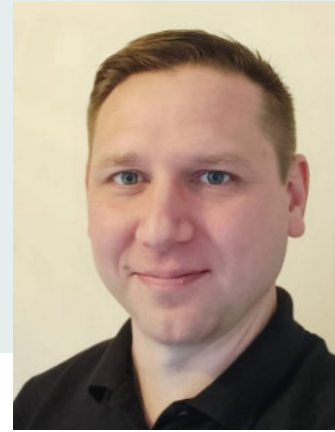
- Avoidance of negative environmental impacts must come first
- Cumulative pressures must have clear limits
- Enhancement must be measured in ecological outcomes
- Compensation must be strategic, additional and long-term
- Protected areas must be effective and connected
- Monitoring must operate over decades, not short project cycles

The risk is not that we fail to act but that we mistake incremental mitigation for genuine recovery.

The marine environment is not an obstacle to growth. It is the foundation of a resilient and regenerative economy. With the right science, policy and investment, the UK can demonstrate how environmental recovery and economic ambition can be achieved together.

Beyond regulation:

Why the UK needs a national approach to AI assurance



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Today, Artificial Intelligence (AI) is moving faster than policy can comfortably track, and in many cases so fast that policies covering the subject don't even exist.

The UK is rightly proud of its global reputation for engineering excellence, safety assurance, and scientific integrity. All properly researched and planned. Yet in AI those same disciplines are being tested in real time.

So far we've seen local policy, strategy papers, and international summits. What we have not yet seen with AI is assurance: the practical, operational proof that today's AI systems can operate themselves safely, accountably, and within the boundaries of law and ethics.

At R2AI, we believe the next stage of national AI leadership will depend on building more trust than technology. That means building assurance into the development process. Our work focuses on turning responsible AI principles into measurable practice, through training, governance frameworks, and collaboration across sectors.

We are under no illusion about the scale of this challenge. In the history of modern technology, few advances have matched AI's pace, complexity, and impact. Meeting this pace will require partnership, shared standards, and the same spirit of engineering discipline that built the UK's reputation in the first place.

Regulation defines what is legal. Assurance defines what is safe.

The UK's AI Regulation White Paper¹ and the AI Safety Summit² at Bletchley Park signalled real intent to lead responsibly in this field. But policy and principle can only take us so far.

Regulation, by its nature, sets boundaries. It defines what to do and what not to do. Assurance is that element in the process which builds confidence that what is being done will work as intended.

In high-reliability sectors, from aviation to nuclear engineering, assurance is not an optional extra; it is the process that sits between innovation and implementation. It is how we move from theory to trusted reality. If we expect the public to trust AI in our hospitals, courts, classrooms, or command and control systems in Critical National Infrastructure, that same assurance mindset must now be hardwired into national AI governance.

I have spent most of my career as an engineer working on systems where failure simply was not an option, yet all too often a reality, serving within an ever-ageing Royal Navy fleet. But that is a story for another day. You do not certify safety by hope; you certify it through evidence, repeatability, and transparency. Those same principles now need to underpin how we govern AI.

Fragmented oversight, shared risk

Right now, the beginnings of the UK's AI oversight framework is spread across multiple regulators: the Information Commissioner's Office, the Competition and Markets Authority, the Medicines and Healthcare products Regulatory Agency, the Financial Conduct Authority, Ofcom, and others, each tasked with a different piece of the puzzle, none yet enshrined

in law. It is an understandable structure, AI cuts across every sector. But this fragmentation creates uncertainty for both innovators and operators.

If you are a company deploying AI in recruitment, finance, or healthcare, who do you go to for approval? Who verifies that your system is compliant, explainable, and safe to use? Each regulator interprets the risk through its own lens, but there is no single point of coherence. That lack of coherence is itself a risk.

Without an integrated assurance framework, we are asking industry to navigate a maze of overlapping responsibilities with no central assurance body to verify what 'safe AI' even means.

The missing link: assurance infrastructure

Assurance, therefore, is not a paperwork exercise; it is infrastructure. The structured process of verifying that a system can operate safely, ethically, and as intended before it reaches the wider public.

We already do this for aircraft, medical devices, and even offshore oil rigs. Yet when it comes to AI, a technology capable of shaping opinions, making hiring decisions, and influencing financial or judicial outcomes, we have no comparable mechanism.

An AI assurance infrastructure would mean that every high-impact system, from decision-support tools in the NHS



World leaders gathered for the inaugural Artificial Intelligence Safety Summit at Bletchley Park, UK.

to autonomous vehicles or generative AI models in education, goes through a repeatable auditable process of independent validation. It would confirm compliance with law, and compliance with its intent: that the system behaves safely, fairly, and transparently across its life cycle.

Digital responsibility

In engineering, you design for safety, then you prove it. You do not bolt it on later. The same logic applies to AI. Ethical and legal risks are not post-deployment issues, or just something to manage once the technology is already in service.

In our work supporting assurance development across sectors, we've seen, that assurance is most effective when it is treated as a design feature, not a defensive one. That means embedding governance and oversight from the very start of development, not waiting for a regulator to intervene.

This approach does not slow innovation; it strengthens it. Models that can demonstrate traceability, human oversight, and lawful data use, move faster and face fewer barriers when scrutiny inevitably arrives. Assurance becomes the enabler of responsible innovation, not the obstacle to it.

A national framework for AI assurance

It is time to treat AI assurance as a national capability, not a niche service. I believe the UK should establish a cross-sector National AI Assurance Framework, coordinated to bring coherence to the current patchwork arrangements.

Such a framework could establish shared assurance standards across sectors, ensuring that 'safe AI' means the same thing in healthcare as it does in finance or defence. It would provide certification routes for the systems that contain AI, enabling trusted deployment within the boundaries of UK law, and introduce consistent incident reporting, learning loops, and audit trails to maintain transparency when things go wrong. Crucially, it would also invest in people, building the skills and literacy programmes needed for professionals who understand both the technology and the governance behind it.

The goal is consistency. We already know how to do this. The same engineering mindset that built Britain's nuclear and aerospace safety regimes can be adapted to digital systems. The question is whether we are willing to treat AI with the same seriousness.

The government does not need to do this alone. In fact, it should not. Assurance thrives when expertise is distributed and validated through collaboration.

The UK's private sector already holds the practical experience: the engineers, ethicists, and governance specialists working with real-world AI deployments every day. Academia provides the research depth and ethical frameworks. Government sets the standards and expectations. Together, they can build a national assurance capability that reflects British values of safety, fairness, and transparency.

In my own work, I have seen this kind of partnership model deliver real results. Whether it is a small business trialling AI

or a complex, high-risk environment, the outcome is always the same: once people have clear governance structures, confidence replaces confusion, and innovation finds its footing.

Public confidence in AI does not come from press releases or political statements; it comes from visible, verifiable safety.

When an AI system produces a decision that affects a person's future, such as a mortgage, a job interview, or a parole hearing, the public expects the same level of scrutiny that we apply to any other safety-critical process. They expect oversight, documentation, and accountability.

That is why assurance is more than compliance. It is about being able to show, transparently, that humans remain in control, that there are guardrails, reviews, and real consequences if those controls fail.

Without that assurance layer, even the best-intentioned policy risks losing public trust. And once trust is lost, it is incredibly hard to regain.

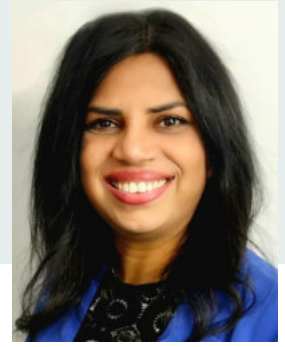
The challenge before Parliament is not whether to regulate AI; that debate is already settled. The real question is whether we can build the necessary assurance systems that give regulation meaning.

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Cyber violence against women and girls must be treated as a national strategic priority



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Violence against women and girls is now firmly recognised as a national priority in the UK. Cyber violence must be treated with the same strategic seriousness. Evidence emerging from the CyVAWG and CyberDIVA projects shows how digital harms are reshaping abuse, outpacing institutional responses, and exposing the urgent need for stronger evidence, specialist capability, and cross-sector policy coordination.

VAWG is a matter of national strategic importance

Violence against women and girls is no longer being framed merely as a social harm at the margins of public policy. In 2024, police chiefs declared VAWG a national emergency, and the National Police Chiefs' Council now state that it accounts for just under 20% of all recorded crime in England and Wales. The government has also committed to halving VAWG within a decade, placing the issue firmly within national strategy rather than treating it as a discrete specialist concern. [1,2]

The issue is no longer simply whether institutions are aware of the problem, but whether the UK has built the systems, workforce and operational readiness required to respond effectively. This matters especially because the nature of violence itself is changing. Increasingly, abuse is mediated, amplified and prolonged through digital technologies. Digital abuse is not a secondary or less serious layer of harm. It is one of the principal environments through which coercion, humiliation, surveillance, intimidation, and sexual violence are enacted. The online and offline dimensions of abuse are now deeply entangled, and policy that treats digital harms as an adjunct to 'real-world' violence will continue to underperform.

Technology is reshaping the nature of harm

Technology-facilitated abuse spans online harassment, cyberstalking, image-based abuse, coercive monitoring, sextortion, doxing, coordinated pile-ons, and AI-

generated sexual deepfakes. These harms differ from many conventional forms of abuse in three important respects: they travel faster, they persist longer, and they scale more easily. A single act can be replicated, archived, redistributed, algorithmically amplified, and made visible to multiple audiences at once. The resulting harm is often cumulative, reputational, and difficult to contain.

In February 2026, the Prime Minister recognised this reality, stating "the online world is the frontline of the 21st century battle against violence against women and girls," as new measures were announced requiring tech firms to remove flagged non-consensual intimate images within 48 hours. New measures on intimate image abuse, platform responsibility, and the protection of children from misogynistic online influences signal that the digital sphere is now central to the VAWG agenda. Yet recognition has run ahead of infrastructure needed to protect women and girls.[3,4]

Why CyVAWG and CyberDIVA matter in this policy landscape

CyVAWG, a multidisciplinary Innovate UK-funded project developed with support from the Department for Science, Innovation and Technology and West Midlands Police, was designed to strengthen understanding of cyber violence against women and girls and to improve prevention, reporting, awareness, and resilience. Its value lies not simply in the fact that it produced resources, but in the model it demonstrated: by bringing together insights from cybersecurity, law, policing,

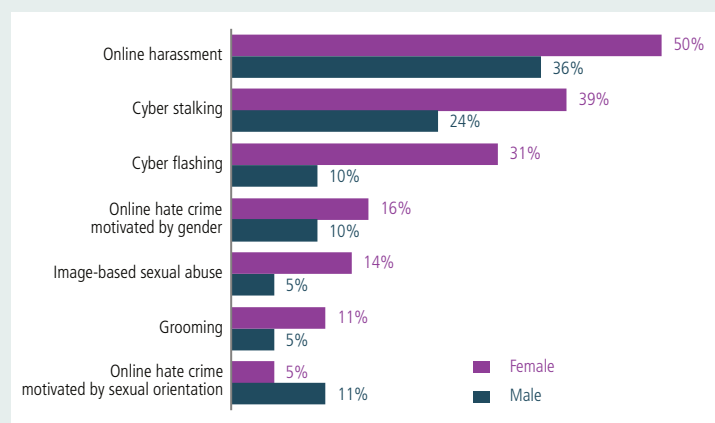
psychology, public policy and lived experience the developed resources were survivor-informed, interdisciplinary, policy-facing, and grounded in real operational need.[5] That combination is essential because cyber violence against women and girls cannot be adequately understood through any single disciplinary lens. It is simultaneously a justice issue, a safeguarding issue, a digital governance issue, a public health issue, and an education issue.

CyberDIVA is now advancing the field from awareness and response into forensic and evidence-led investigation. It examines cyber-enabled gender-based harm across both visible and hidden online environments, with a particular focus on the patterns, infrastructures, and tactics that enable abuse to proliferate. The project generates actionable evidence: forensic reporting, AI-enabled analytical tools, survivor-centred resources, a CyberDIVA toolkit (Figure 2), and practical guidance for law enforcement, regulators, and support organisations. It addresses a core problem that weakens national response – the gap between recognising the threat and being able to detect, analyse, and act on it consistently.[6]

The evidence gap is a strategic weakness

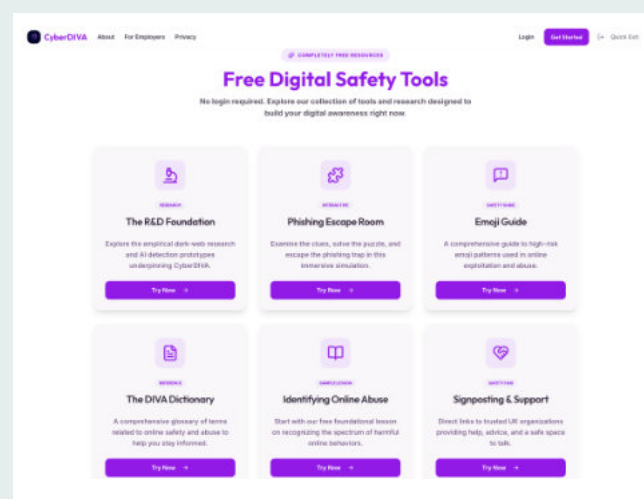
Across the UK, cyber violence against women and girls remains under-measured, inconsistently recorded, and unevenly interpreted. This is more than a technical limitation. Poor data architecture produces poor policy architecture. When incidents are categorised differently across

Figure 1. Type of abuse experienced among victims of online abuse, UK



Source/note: Victims' Commissioner (20 January to 27 February 2022), Statista, 2026. Respondents who were victims of online abuse, n=534

Figure 2. CyberDIVA toolkit



organisations and sectors, we lose the ability to compare cases, identify emerging patterns, evaluate interventions, and allocate resources intelligently.

In practice, women and girls encounter fragmented systems: different reporting routes, different thresholds for action, different understandings of digital evidence, and different levels of support. Research and stakeholder engagement repeatedly show that survivors often face an accumulation of barriers produced by institutional fragmentation. If VAWG is to be approached as a strategic national challenge, then cyber violence against women and girls must be supported by a common evidence framework robust enough for operational use and nuanced enough for survivor-centred practice.

Capability: the missing ingredient

The UK is not short of concern or actors. The deeper problem is capability. Many frontline systems still lack the specialist skills needed to recognise online abuse pathways, preserve digital evidence, understand platform logics, assess AI-enabled harms, and respond in ways that match the speed and complexity of contemporary abuse.

This points to the need for a capability agenda as well as a policy agenda. Addressing cyber violence against women and girls requires investment in specialist training, digital forensics capacity, interdisciplinary partnerships, and workforce development across sectors. No other fast-evolving national risk would be treated as manageable without building institutional competence around it. CyVAWG and CyberDIVA point to the

same lesson: durable progress depends on embedding expertise, not merely publishing statements of intent.

What parliament should prioritise now

1. **Supporting a common national data framework** for cyber violence against women and girls, with clearer definitions, stronger recording standards, and safer mechanisms for cross-sector insight sharing.
2. **Investing in specialist capability** across policing, education, local government, victim services, and the wider justice system.
3. **Backing sustained interdisciplinary infrastructure** that connects digital forensics, social science, policy, and survivor-centred practice, rather than relying on short-term and fragmented interventions.
4. **Pressing for stronger platform accountability**, including safety-by-design, faster redress mechanisms, and more transparent responses to harms that disproportionately affect women and girls.

The UK also needs to view this issue internationally. The technologies that facilitate abuse are transnational, platform-based, and rapidly evolving. The policy response must therefore be outward-looking and globally informed. The UK's wider commitment to putting women and girls at the centre of national and international policy should be matched by a clear ambition to lead on evidence-based, technology-aware responses to digital gender-based violence.[2,7]

Conclusion

Cyber violence against women and girls should not be treated as a niche sub-topic within the VAWG agenda. It is one of the defining policy and operational challenges now shaping that agenda. The significance of CyVAWG and CyberDIVA is that they show what a more serious response can look like: interdisciplinary, survivor-informed, technologically literate, and oriented towards real-world implementation.

Recognising VAWG as a national emergency was an important political step. The next step is to build the evidence systems, specialist capability, and institutional partnerships that allow the UK to respond effectively in both physical and digital space. If the UK is serious about prevention, protection, and justice, cyber violence against women and girls cannot remain peripheral. It must be central.

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Necessary but not sufficient:

The role of science in teaching our young people about climate change

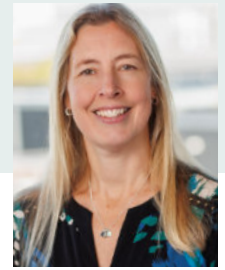
Climate change is no longer an abstract topic in the United Kingdom; it is a lived experience for young people, shaping daily life, future prospects and national priorities. Schools must prepare students not only to understand these changes but to navigate, manage and lead within them.



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The current review of the national curriculum in England is a significant opportunity to ensure that honest climate change education that cultivates hope, agency and resilience is available to all our young people. This has significant implications for school science, demands a whole curriculum response and requires a sustained programme of professional development for teachers.

Curriculum reform

Many young people report high levels of anxiety about climate change¹ but evidence suggests that 'new climate denial', which rejects the severity of the crisis and the solutions proposed to address it, is also increasing.² The school curriculum is seen by many, including parents³, as a vital resource in providing young people with the knowledge and skills to navigate their way through these issues, yet despite this, climate change and sustainability content is currently sparse.⁴

Science should provide critical foundational knowledge about climate change, alongside core skills of scientific enquiry. The important role of science in climate change education was recognised in the final report of the recent review of England's national curriculum.⁵ The report called for more attention to 'the scientific causes of, consequences of, and potential solutions to climate change' and a more coordinated approach 'across scientific disciplines, ensuring that environmental and climate-related content is integrated meaningfully and coherently rather than only being presented as a standalone topic'. We welcome the report and the

government's positive response, while also highlighting three priorities for creating and implementing a curriculum that responds effectively to the climate emergency.

What is the role of science in schools?

The first priority focuses on the science curriculum itself. The definition of 'potential solutions' above is open to interpretation, and there is a risk of focusing only on technological 'fixes' and neglecting multiple viewpoints and perspectives.

In their analysis of the current curriculum, Glackin and King argue that citizens need to 'understand that there are no environmental fixes and that all solutions have social, political, environmental impacts'.⁶ They illustrate this by comparing how different GCSE awarding bodies address energy management. One specification requires students to describe major energy sources and compare renewable and non-renewable uses, while another goes further, highlighting complex choices and competing messages from energy companies, environmental groups, the media, scientists and politicians, including proposals for more renewables, more nuclear power and lifestyle changes. In the first, students are required to learn about energy sources; in the second, students are prompted to apply this knowledge to consider and explain multiple perspectives and impacts.

We argue that the science curriculum must go beyond knowledge about climate change, vital though this is.

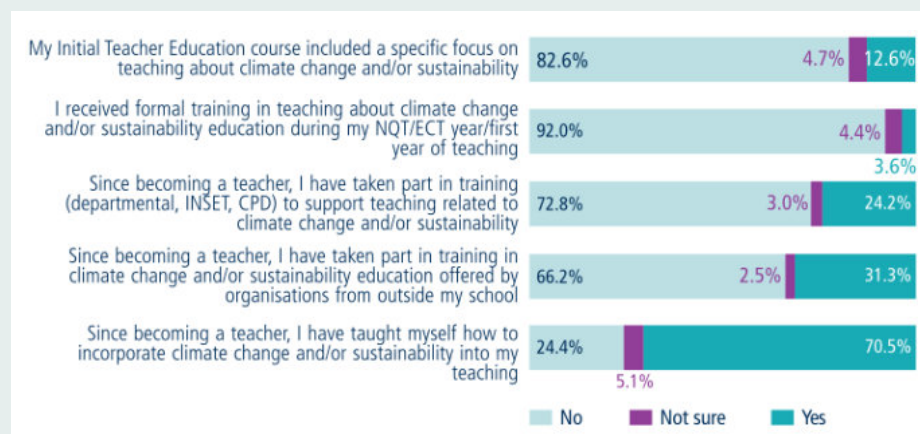
It should also build understanding of current debates and impacts, fostering agency and enabling young people to 'critically examine claims about environmental issues to distinguish between reliable information, disinformation and misinformation'.⁷

Science should support a whole curriculum approach

The second priority is to situate science's contribution within the whole curriculum. The example of energy management above demonstrates perfectly how climate change is not only a science problem. Alongside science, the curriculum review suggested that climate change should also feature in geography, citizenship and design and technology. We welcome this recognition that climate change has broad curricular relevance but would go further and argue that a holistic understanding of the climate (and nature) crisis should inform the aims of all subjects. In this context, science (and geography) can act as 'underpinning' disciplines, supporting wider curriculum thinking.⁷

A whole curriculum approach requires more creative thinking about how subjects can work together. One example developed by UCL's Centre for Climate Change and Sustainability Education is a module entitled 'Living Cities'.⁸ This explores the past, present and future of our cities, critical since the majority of the world's population is now urban. The enquiry combines history, geography and science, with huge potential to include English, mathematics and art. Although we present London as a case

Figure 1. Participation in types of professional development related to climate change and sustainability



study, schools are encouraged to localise the enquiry to a nearby town or city and build a rich understanding of how it could become more sustainable and biodiverse.

Innovation needs supporting

The final priority is to ensure that teachers are ready and supported to teach a revised curriculum, a critical dimension of any curriculum reform.⁹ A survey of 870 teachers carried out by UCL in 2022 suggested that they have received very little professional development about how to teach climate change unless it has been 'self-taught' (Figure 1).¹⁰ This is especially concerning as the majority of respondents taught science and geography. Also of concern was that only just over half (58.3% of secondary science respondents agreed that they include content related to climate change in their teaching, despite the wide range of topics across all three sciences that would be relevant.

Beyond the implementation of statutory content in the revised curriculum, the kind of local innovations encouraged in the curriculum report and illustrated by the 'Living Cities' enquiry are much less likely to happen in the absence of a sustained programme of teacher support. This needs to go beyond the provision of resources, where underpinning rationales, especially around teaching approaches, are hidden, to include opportunities for teachers to explore case studies of excellent practice, join communities of practice and be enabled and encouraged by their school leadership. There are some wonderful pockets of innovation but all young people deserve an engaging, relevant

and empowering curriculum that inspires them to participate in local and national efforts to protect the natural world, tackle climate change and adopt more sustainable lifestyles, including through a career in the ever-expanding green economy.

UCL is addressing this need through Teaching for Sustainable Futures [www.climateeducation.org.uk], a programme of free, accessible modules tailored by subject and age group. The programme is designed to stimulate conversations in schools, inspire curriculum change and support pedagogical innovation. These modules will be embedded in schools through the launch of our Schools for Sustainable Futures initiative in September. However, unless school leaders are obliged to prioritise climate change and sustainability, good practice will remain isolated. This makes getting the new curriculum right essential, alongside reform of national professional development and inspection frameworks, which currently contain no references to climate change, nature or sustainability.

This is urgent

Young people are already living with climate change, and its impacts on their lives will continue to grow. Scientific knowledge alone is not guaranteed to motivate them to act or demonstrate workforce readiness. Young people also need agency, resilience and problem-solving skills, alongside an understanding of both local and global perspectives. This requires a science curriculum that adopts more than a purely technological or knowledge-based lens, and which examines the wider impacts of and

responses to climate change while providing foundations for learning across other subjects. Crucially, it also requires teachers who are prepared to innovate in ways that are locally relevant and globally imperative.

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T-level Science:

Bridging the gap between the classroom and the workplace



Dr Mark Jones

RLC LAB in collaboration
with Ufi VocTech Trust

This paper focusses on the T-level Science course. The UK faces a well-documented shortage of technicians in the chemical and life science sectors, clearly the T-level Science route has real potential to contribute to a solution to this problem.

A qualification built for the skills the UK needs

T-levels represent one of the most significant reforms to technical education in a generation. Designed to be employer-led, work-ready, and rigorous enough to compete with A levels on equal terms. However, college providers, awarding bodies and government agencies have been open and candid about the challenges that remain in making that ambition a reality. Chief among them is the need for teaching resources that genuinely reflect modern workplace practice and the availability of suitable, good quality, work placements. The Department for Education has sort to tackle some of the challenges of securing work placements by introducing flexible 20% remote employer supported placements, for all subjects, in January 2025.

Solutions start with finding the right partners

Discussions with T-level Science providers pointed consistently to two main areas of challenge and opportunity:

- Access to teaching materials with genuine industry currency, with active support from employers.
- Work placements. This is a challenge for all T-levels, but the added complications of laboratory safety make it particularly difficult for science courses. Is this an opportunity for remote employer support?

To find a solution to these challenges we assembled a group of like-minded organisations to conduct a pilot project. The cohort included.

RLC LAB, a contract laboratory with > 20 years' experience in the pharma/biotech/manufacturing sectors

Ufi VocTech Trust, an independent charity focused on unlocking the full potential of technology to get adults learning.

Four FE colleges: Bury College, Cambridge Academy for Science and Technology, Derby College and Warrington UTC

A pilot approach: bringing the laboratory into the classroom

Modern analytical techniques, such as HPLC (High Performance Liquid Chromatography) and LCMS (Liquid Chromatography Mass Spectrometry) are essential laboratory tools and central to careers in research and manufacturing sectors, including:

- Pharmaceutical research
- Environmental analysis
- NHS diagnostics
- Forensics
- Food safety
- Manufacturing R&D and quality control

However, for colleges, this type of equipment is way outside budget constraints to purchase and maintain. Plus, most course leaders are unable to access CPD training opportunities to investigate and embed these type of techniques as part of their course content delivery.

This is precisely the kind of gap that industry is well placed to help address. Organisations working with these technologies every day hold something FE colleges cannot easily generate themselves: access to equipment, authentic raw data, current practice

protocols, and the ability to translate laboratory reality into meaningful learning. The question is how to make that expertise available at scale, to colleges across the country regardless of their location or existing employer relationships. The solution – equipment simulators (Figure 1).

The project centred on the development of online HPLC and LCMS equipment simulators built using real experimental data generated at RLC LAB. The simulators replicate the appearance and interactive features of the physical instruments. Each student is allocated their own online system. Students log in remotely using their unique user ID and have full control over instrument settings and selection of sample vials to be analysed. Using the supplied lesson plans, students conduct experiments in real time, including the analysis of calibration standards and tablet extract samples. The generated analytical reports (Figure 2) are automatically stamped with their user ID and the exact date and time that each sample was analysed – creating a genuine sense of operating professional equipment and direct ownership of real data, rather than textbook approximations. Note, logging in remotely to run experiments is common practice in industry, hence the project gives students a real sense of the type of practical and data analytics work they would be expected to perform in the workplace.

Scalability was designed in from the outset. Delivering resources digitally removes geographic constraints and provides all participating colleges with a standardised set of experiments in a safe, controlled environment. The model

Figure 1. Online HPLC system

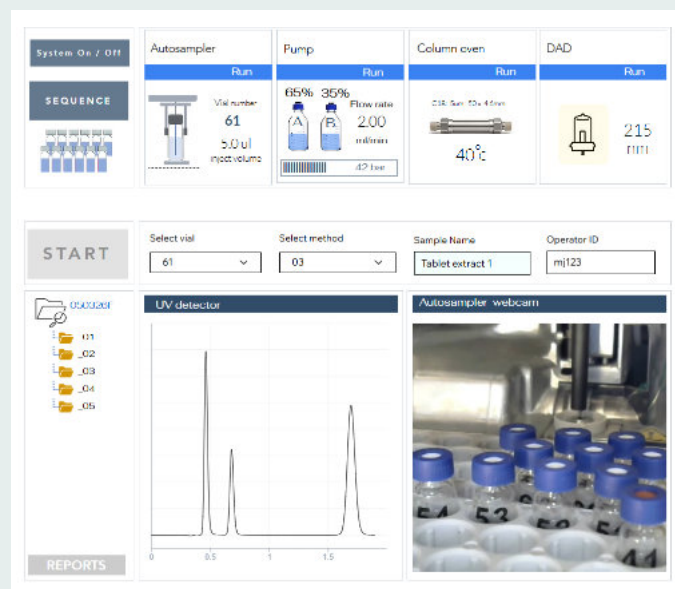
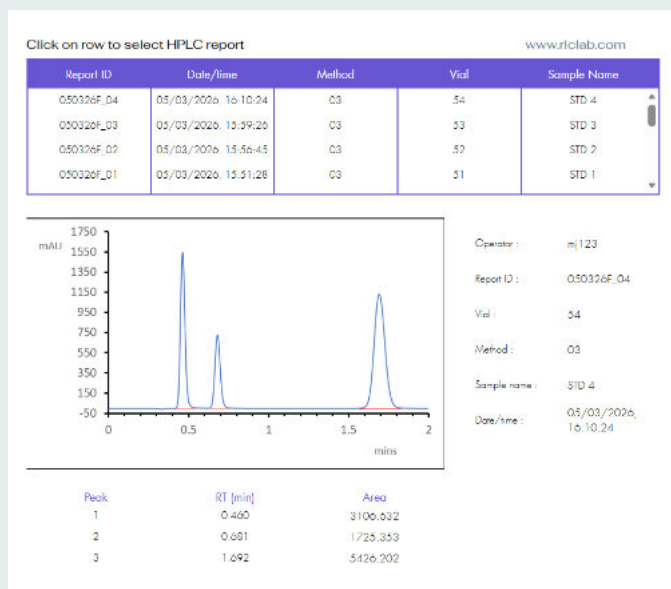


Figure 2. HPLC reports



also has direct potential as part of the new 20% remote employer work placement element of T-levels, offering a structured, quality-assured placement experience independent of where a college is located.

Evidenced-based results

Feedback from all four colleges was substantive and consistent, demonstrating clear evidence-based results that have a positive impact on student learning outcomes.

At Bury College, course leader Martin Attree described the impact both on subject understanding and on broader employability skills:

"The virtual placement programme has been an extremely valuable experience for our students. It has provided meaningful insight into industry practice and helped learners develop a clearer understanding of HPLC. Students have engaged positively with the activities and have benefited from the experience. The flexibility of the virtual format has enabled consistent participation while still maintaining a strong sense of professional expectation. Students have developed key employability skills such as collaboration, problem-solving, independent working, and digital confidence."

Jenny Moss at Cambridge Academy for Science and Technology highlighted what industry-originated resources provide that standard classroom materials cannot:

"The resources provided offered a clear, engaging and industry-focused way to explore modern laboratory techniques, giving students a far more authentic sense of the workplace than traditional classroom materials."

Catherine Walls, at Derby College, noted the value of a safe environment for building scientific confidence:

"This programme has given students the opportunity to put their theoretical understanding of HPLC to the test; they have been able to make errors and take risks in a safe environment which has helped build their confidence and resilience. The analysis of Anadin very much brought the subject to life and allowed for much deeper understanding."

Daniel Twist, at Warrington UTC, articulated the broader principle that the pilot illustrates:

"Employer and industry partner input is not just an attractive 'add-on' but should be baked into the programme's delivery and is, in this teacher's opinion, vital in ensuring the T level achieves what it is built to achieve."

A call for industry to step forward

This pilot is one example of what becomes possible when organisations with relevant scientific expertise choose to engage with FE colleges as curriculum and remote work placement partners. It demonstrates that industry-led resource development for T-level Science is

achievable, scalable, and valued by the professionals delivering the qualification.

The policy framework is already in place. The Department for Education T-level strategy, including the new remote placement provisions, supported by networks such as the T-level Ambassadors Network provide mechanisms through which industry knowledge can be channelled into colleges

T-levels can be a genuine and effective route into apprenticeships, employment and higher education in the sciences and other sectors from construction to digital and the creative arts – but only if the resources preparing students for those pathways reflect the reality of the workplaces they are heading towards. Industry has both the knowledge and the means to make that happen and I would encourage all sectors to take a proactive role in shaping the next generation of employees their businesses will depend upon.

Acknowledgments

This pilot would not have been possible without the support of Ufi VocTech Trust, with special thanks to Teni Oguntayo and Kev Jones. Special thanks also to our dedicated course tutor pilot participants (Martin Attree, Jenny Moss, Daniel Twist and Catherine Walls) who took the time, during a packed schedule, to test and validate the online resources to explore new learning opportunities for the benefit of their students.

Supporting carers in STEMM

Care responsibilities and academic careers often collide – this article highlights the structural barriers facing carers in STEMM and the policy changes needed to level the playing field.



Jose Cabezas

Postdoctoral researcher at UCL.
Winner of the Physiological Society
prize at STEM for Britain 2025

Academic research is often perceived as a flexible, self-managed working environment. However, this flexibility is offset by intense competition for publications and funding, alongside expectations of frequent relocation between institutions or countries, sometimes as a requirement for grant eligibility. These pressures can make academic careers particularly challenging for researchers with caring responsibilities, hindering their career progression.

The Carers in STEMM (Science, Technology, Engineering, Mathematics and Medicine) network was set-up by Professor Laura Carter, Dr Laura Pallett, and Dr Laura Wolz to advocate for researchers with caring responsibilities. Their recent survey examined the challenges of balancing the demands of academic travel and caregiving.¹ A key recommendation for academic institutions is to provide family-conscious grants that allow for the reimbursement of care-related costs with minimal administrative burden.

In this article, I highlight two further policy areas where changes could significantly improve the working conditions of researchers with childcare responsibilities.

Lack of childcare support for PhD students

PhD students are not eligible for any type of government childcare funding support. Childcare Grants of £199.62 per week² are available to students on undergraduate and postgraduate-taught courses. However, PhD students are excluded from this provision as they are postgraduate-research students.

The government provides 30 hours of funded childcare per week to working

parents. However, PhD students are also excluded from this support because they are not classed as employees, in contrast to many other European countries. Despite this, PhD students are typically expected to work around 40 hours a week and the UKRI tax-free stipend of £20,780 per year is roughly equivalent to the take-home pay from a full-time salary at the National Minimum Wage.

PhD students are central to the UK's research capacity and the development of a highly skilled workforce underpinning innovation and economic growth. The lack of childcare provision risks making doctoral study inaccessible to individuals with caring responsibilities, particularly those considering a return to education later in their careers.

Unequal parental leave

In the UK, statutory paternity leave is limited to only two weeks paid at £187.18 per week³, which is equivalent to £4.70 an hour or less than half of the National Minimum Wage. By comparison, other European countries have substantially reformed their parental leave policies in the last decade. In 2019, Spain extended paternity leave from 2 weeks to 16 weeks, fully matching maternity leave⁴. Similarly, Denmark increased paternity leave from 2 weeks to 24 weeks in 2022⁵.

Within the UK university sector, provision varies widely between institutions. This inconsistency is particularly concerning given that many researchers secure their own salaries through funding from competitive grants, such as those from UKRI. Despite this, their parental leave entitlements are determined by institutional policies, creating inequities between researchers doing similar work under different employers. For example, while the University of Essex⁶ provides

two weeks of paternity leave and pay, the University of Oxford⁷ offers 12 weeks of paternity leave with full pay. Shared parental leave options also exist, but they are not additional entitlements, as they require the mother to give up some of her own leave allowance⁸.

A report from the Office for National Statistics highlights that, on average, mothers lose more than £65,000 of earnings within five years of having their first child⁹. Equal parental leave is an essential requirement to ensure a fair distribution of caring responsibilities. Furthermore, more equitable parental leave has been shown to promote economic growth by helping mothers return to work and supporting their uninterrupted career progression¹⁰.

References

¹ www.carersinstemm.co.uk

² www.gov.uk/childcare-grant

³ www.gov.uk/paternity-pay-leave/pay

⁴ <https://blogs.lse.ac.uk/businessreview/2025/07/23/well-designed-paternity-leave-makes-spain-a-model-of-success>

⁵ www.norden.org/en/info-norden/parental-benefit-denmark

⁶ www.essex.ac.uk/staff/taking-leave/paternity-leave-and-pay

⁷ <https://hr.admin.ox.ac.uk/paternity-leave>

⁸ www.gov.uk/shared-parental-leave-and-pay/what-youll-get

⁹ www.gov.uk/government/statistics/the-impact-of-motherhood-on-monthly-employee-earnings-and-employment-status-england-april-2014-to-december-2022

¹⁰ www.jrf.org.uk/work/improving-statutory-paternity-leave-would-benefit-families-and-the-economy

DISCUSSION MEETING REPORTS

20 JANUARY 2026

Building a thriving UK neurotechnology ecosystem

Held in partnership with Newcastle University and NHS National Centre for Neurotechnology and Neurorestoration, Newcastle upon Tyne Hospitals



L–R:

Dr Luke Bashford, Scientific Director of the NHS National Centre for Neurotechnology and Neurorestoration, Newcastle;

Sam Carling MP, Chair, Parliamentary & Scientific Committee;

Dr J Galen Buckwalter, research psychologist and neurobehavioral scientist;

Justine Knowlson, paediatric nurse;

Viscount Stansgate, President, Parliamentary & Scientific Committee; and

Baroness Walmsley, Vice-Chair, Parliamentary & Scientific Committee.

Recent advances in neurotechnology, such as Brain-Computer Interfaces (BCIs) and Neurostimulators, are ushering in a new era of research in the human brain and transforming treatments, to support patients across the full spectrum of neurological conditions; the UK stands ready to be a world leader in the research, development, and healthcare delivery of such transformative neurotechnologies. The meeting informed us of the latest developments in brain-implants, enabled us to hear directly from those who have received these devices and outlined strategies for the UK to lead in this area.

Chair of the P&SC, Sam Carling MP, introduced our three speakers:

Dr Luke Bashford, Newcastle University, and Scientific Director of the NHS National Centre for Neurotechnology and Neurorestoration.

Neurological disorders are the leading cause of overall disease burden worldwide; his laboratory uses implanted Brain-Computer Interfaces (BCIs) to investigate the neural mechanisms underlying human sensorimotor and cognitive function for basic science and clinical translation. He described the UK's R&D strengths, with the NHS 'living laboratory', our diverse regional research institutes, and a highly engaged

regulatory body making us ready to be a world leader. However, weaknesses exist in translating research and fostering commercialisation, with public funding for long-term research programmes and regulatory processes being more favourable in other regions.

Dr J Galen Buckwalter, a research psychologist and neurobehavioural scientist, working in academic neuroscience, applied psychometrics and emerging neurotechnologies describes himself as both a scientist and a patient,

Following on from a spinal cord injury in his teens, he became a neuroscientist, explaining how spinal injuries cause 'systems level disruption' affecting every aspect of life; BCIs aim to deal with this. He received a unique implanted BCI two years ago; his implants have provided him with meaningful restoration showing BCIs can become one of the greatest advances for people with damaged nervous systems. No longer science fiction, serious consideration is still needed when deciding to have implants. At the present time he considers technical aspects are better dealt with than moral or psychological issues; he discussed ownership of neural data, and issues of consent and protection of this data from secondary exploitation, which will become increasingly important as more people participate in clinical trials.

Justine Knowlson, both parent to a child with complex epilepsy, and a qualified paediatric nurse with specialist neurology experience, explained how two years ago her child was the first child in the world to have the insertion of a Picostim neuromodulation device through the UK CADET clinical trial. She spoke movingly of life before the implant; with an average of 350 seizures a day he was virtually housebound, with poor quality of life. Since the implant he can go to school, participate in sports and excursions and has gained new skills. This has affected not only his life, but the life of the entire family.

Both speakers with lived experience are passionate advocates for increased access to this research in the UK, to help others in similar situations. Immediately this can be realised through additional clinical research studies, fostering the translation of devices to standard care.

An enthusiastic Q&A session followed; responding to Sam's question about desirable government research support, Luke felt we ought to ease UK medical device research pathways, making advances useful for as many people as possible. Users need long term support, maybe for life; much of the technology is still at research stage, but treatment should not be withdrawn after

completed trials, long term financial support is needed to at least maintain patient outcomes.

Translation from research to commercial development of devices continues to be an issue, initial work is underway to make it more streamlined. International companies are interested in UK research and investment; the NHS structure

provides tremendous opportunities, although these are currently not fully utilized.

Security, IP and future usage of personal neural data were revisited; this is a critical leadership area as neurotechnologies develop and use cases broaden.

It was stressed that our education system

must be suitable to produce a feedstock of new young people to take on neuroscience research.

Parliament needs to think about funding mechanisms – Sam pointed out that life sciences is a key area in new science strategy. The bottom line in supporting neurotechnologies should be value rather than costs.

9 FEBRUARY 2026

Can economic development really go hand in hand with environmental enhancement? The UK's marine economy as an exemplar

Held in partnership with the National Oceanography Centre



L–R:

Jack Rankin MP, Member Parliamentary & Scientific Committee;
Gareth Cunningham, Director of Conservation and Policy, Marine Conservation Society;
Natalya Kharadi, Principal Consultant, Environmental Economics Consultancy;
Viscount Stansgate, President Parliamentary & Scientific Committee; and
Dr Claire Evans, Principal Research Scientist, National Oceanography Centre

The UK, an island nation, has a thriving marine economy, including tourism, fisheries, aquaculture, energy, shipping and cabling; expansion of these activities could damage the environment, or could present an opportunity for environmental improvement. Introduced by Viscount Stansgate, P&SC President, the meeting heard from our speakers how it is possible to create a sustainable 'blue economy', with long term benefits for the UK economy, industry, employment, coastal communities and nature.

Dr Claire Evans, Principal Research Scientist at the National Oceanography Centre, described 'UK marine economic growth and environmental enhancement?'
NOC's role is to increase knowledge of the oceans by undertaking four missions: climate, biodiversity, hazards and pollution, and sustainable marine economy. Growing use of ocean resources must be balanced with the need to protect marine ecosystems. UK's location supports a diverse range of ecosystems underpinning marine

industries, but it can be difficult to isolate and evaluate impacts across such large highly connected ecosystems, change can be rapid and recovery after damage slow. Climate change, and land-based pressures impact coastal waters; marine degradation harms marine industries. Ocean science provides the evidence base to inform future development; environmental enhancement means biodiversity gain, improved ecosystem function and increased resilience to climate change. Offshore infrastructure design can assist recovery, offsetting and compensation can fund seascape-scale restoration and Marine Protected Areas (MPAs) can help; a science-based approach assists all sectors.

Natalya Kharadi, an environmental economist and principal consultant at environmental consultancy, eftec, spoke on 'Role of economics in marine natural capital approaches', explaining the links between marine economy and environment. Society and economy both impact and depend on the marine

environment, which needs to be healthy to support our activities. She described the natural capital approach, which evaluates natural assets, ecosystems services, benefits and beneficiaries, using as examples the government decision to prevent fishing the UK North Sea sand eel quota, and the 'Sea the Value – Valuing Saltmarsh Restoration' project, for marine and coastal habitat restoration. A healthy and resilient marine environment is essential; using scientific, social and economic information together supports better management and investment decisions, and we need to treat nature as an asset. It's the role of economics to showcase these examples and their implications to decision makers.

Gareth Cunningham, Director of Conservation and Policy, Marine Conservation Society, explained 'What is sustainable blue finance?', focusing on marine-related investment which supports a regenerative ocean economy. Ocean issues are currently low priority for investment

in the financial sector, which likes quick returns, with lack of awareness of less well-known marine pollution issues; whilst most projects remain small-scale, large financiers seek bigger projects. Blue economy projects are often seen as high-risk low-return, there is fear of being labelled 'greenwashing'. Government could help by creating a clear policy strategy, encouraging financial institutions, and unlocking investment through blended finance. He described the UN Ocean Decade initiative, and also gave examples of current nature-based solutions, from spatial mapping the role of coastal habitats in mitigating flood risk, to reintroduction of native oysters which benefit the marine environment.

Our Q&A Session discussed damaging bottom trawling; stringent, faster legislation is needed, with encouragement for better fishing practices. It was felt marine areas tend to be forgotten in general environmental discussions; a resilient and secure national marine infrastructure is needed, to square with conservation strategy. Concerns were expressed about the impact of proposed regional devolution legislation; a national policy is needed in an area where the complex mix of stakeholders (and knowledge) slows progress. Impacts of waste water discharges, loss of valuable sea grasses, and improvements in autonomous marine monitoring were also discussed,

and the poor state of fishing records, and fishing licenses debated. Large fishery businesses control most of the industry; more licences should be given to smaller local groups and the UK population encouraged to eat more British fish. Better technology is needed for enforcement officers, with incentives to get industry compliant and shareholders engaged. Looking to the future, our younger generation is more marine conservation aware, and informed customers can get involved, putting pressure on industry to make improvements.

2 MARCH 2026

What you need to know about... how microbes are a crucially overlooked part of environmental and biodiversity legislation

Held in partnership with Applied Microbiology International



L–R: Sam Carling MP, Chair Parliamentary & Scientific Committee; Professor Jack Gilbert, President, Applied Microbiology International; Lucy Harper, Chief Executive, Applied Microbiology International; and Viscount Stansgate, President, Parliamentary & Scientific Committee.

Current targets for biodiversity, conservation and nature recovery all tend to overlook one key thing: the role of microbes. Yet there is growing scientific evidence that the persistence, functionality, and recovery of many habitats, as well as the health of our soils, are fundamentally dependent on underlying microbial communities.

Our meeting gave us an opportunity to hear about the newly formed Microbial Conservation Specialist Group of the International Union for the Conservation of Nature (IUCN) and have the chance to discuss how UK and international policies can better incorporate an understanding of the importance of conserving microorganisms

Dr Lucy Harper, Chief Executive of Applied Microbiology International (AMI), outlined the objectives of the organisation, the oldest microbiological society in the UK. Formerly the Society for Applied Microbiology, after a review in 2021 it was rebranded, with a fresh mission and new vision to promote the many valuable uses of microbes, to encourage collaboration, diversity and inclusion, and have goals linked to current international aims and the development of global research networks. An example, the IUCN Species Survival Commission (SSC) Microbial Conservation Specialist Group (MCSG), launched in July 2025, is the first global coalition dedicated to protecting microbial life.

Leading AMI through this change to operations, governance, and strategy, she takes a collaborative approach, listening to all stakeholders, and ensuring integrity and openness in communication and decision-making.

Professor Jack A Gilbert, University of California San Diego, and AMI President, started by listing the UN's sustainable development goals, describing benefits of an evidence-based framework, and the role of scientific societies and institutions in climate action. Microbial technologies can save the planet by reducing poverty through jobs in local and national industries, supporting industry generally, and using benefit-sharing models in microbial development

to target under-resourced communities. Healthy soil is essential for many areas of life including food security and future food production, nutrition, and intensive cropping; soil is the world's biggest water filter. Multiple threats to soil include elevated CO₂, drought, fires, increased temperatures and precipitation, flooding, permafrost thawing, and seawater intrusion. He described how microbial biostimulants work, giving an example of successful mangrove restoration projects, and then spoke of the role of AI for design and modelling, and subsequently deployment, monitoring and adaptive learning,

Nature Models, and the new IUCN CSG objectives were discussed, and how microbiome stewardship can promote coral reef health. The Microbiota Vault is a global non-profit initiative, to conserve long-term health for humanity by protecting microbial diversity, notably human-associated microbiota, with

samples preserved for the future. Finally, the new Soil Stars Strategy aims to regenerate soil health through public-private partnerships powered by governments and the UN.

A Q&A session followed; Sam Carling MP (Chair of the P&SC) asked what support is needed from the UK Government. It was felt better systems of support are needed. Developing new ideas from universities into thriving startup companies can be difficult, with small companies missing out. Academics need more help to link up somehow, to get new technologies into use more quickly. It was noted that UK soil management systems are fortunately simpler than those in the USA.

We do now have the technology to pick beneficial microbes, though there can be some uncertainty in biotechnology processes, sometimes producing unexpected results; multiple uses and benefits are possible and it is advisable

to get local communities involved. Bacteriophages were briefly discussed, contained release regulations are complex, and approval for GMO releases can take 10 years; regulators are nervous, and need support to understand technologies better. Sam pointed out that regulation issues are currently important in all areas of the life sciences.

Banks and insurance companies have to be encouraged too; there are not many large successful spinoffs yet, with more in the medical/health areas, progress can take time and patents are not appropriate.

Getting the STEM message over to young people at an early stage, to connect them with food origins, and even playing with soil is desirable; the AMI is supporting creative games. Every primary school should have 1 specialist science teacher.

The importance of microbes to society should not be underestimated.

P&SC Annual Luncheon

We are delighted to announce that Professor Liz Bentley will be the guest speaker at the Parliamentary & Scientific Committee's 2026 Annual Luncheon on Tuesday 30th June from 12.15pm to 2.30pm.

This key social and networking event in our calendar will take place in the Cholmondeley Room, House of Lords by kind permission of our President, Viscount Stansgate. Invitations will be sent out in late April.



Professor Liz Bentley Chief Executive of Royal Meteorological Society

Liz Bentley is the Chief Executive of the Royal Meteorological Society in the UK, and the current President of the European Meteorological Society and President of the International Forum of Meteorological Societies.

Liz completed her PhD in mathematics at the University of Manchester and started work at the UK Met Office in 1993 and worked in many different roles within the organisation, including research scientist, weather forecaster, forecasting instructor and became Chief Instructor at the Met Office College in 1999. In 2002, she managed the Weather Centre at the BBC, based in London. In 2006, Liz started work at the Ministry of Defence, working in research acquisition for their environmental research programme – covering everything from the seabed out into space.

Liz joined the Royal Meteorological Society as Head of Communications in 2008 and, in 2010, took on the new role as Head of the Weather Club – which was the public outreach arm of the Royal Meteorological Society. In 2013, she became Chief Executive at the Society and, in July 2014, was granted the title 'Professor' from the University of Reading, UK.

SELECT COMMITTEES



HOUSE OF COMMONS EDUCATION COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
The use of Artificial Intelligence and EdTech in Education	26 Feb 2026		
Children and Young People's Mental Health	13 Feb 2026		
Realising potential: Delivering the Child Poverty Strategy	29 Jan 2026		
Reading for pleasure	23 Nov 2025		
Early years: improving support for children and families	4 Sep 2025		
Higher education and funding: threat of insolvency and international students	12 Jun 2025		
Solving the SEND crisis	20 Dec 2024	18 Sep 2025	

Chair: Helen Hayes MP

Clerks: Laura Daniels and Sian Woodward

Email: educom@parliament.uk

General enquiries: 020 7219 2370

Media enquiries: 020 7219 8895

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Address: Education Committee, House of Commons, London SW1A 0AA

Further information at: <https://committees.parliament.uk/committee/203/education-committee>



HOUSE OF COMMONS ENVIRONMENT, FOOD AND RURAL AFFAIRS COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
Land use and nature	18 Mar 2026		
Climate and weather resilience	9 Sep 2025	20 Mar 2026	
Preventing waste and enabling a circular economy	20 May 2025		
Fisheries and the marine environment	23 Jan 2025		
Fairness in the food supply chain	20 Dec 2024		
Reforming the water sector	19 Dec 2024	16 Jun 2025	
Work of the Department and its arm's-length bodies	6 Nov 2024		

Chair: Rt Hon Mr Alistair Carmichael MP

Clerk: Sean Kinsey

Email: efracom@parliament.uk

Media enquiries: 020 7219 3138

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Address: Environment, Food and Rural Affairs Committee, House of Commons, London SW1A 0AA

Further information at: <https://committees.parliament.uk/committee/52/environment-food-and-rural-affairs-committee>



HOUSE OF COMMONS ENERGY SECURITY AND NET ZERO COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
Reviewing the electricity market	6 Feb 2026		
International climate change policy	5 Nov 2025		
Managing the future of UK oil and gas	30 Oct 2025		
Revisiting the nuclear roadmap	20 Feb 2025		
Building support for the energy transition	19 Feb 2025		
The cost of energy	18 Feb 2025	29 Oct 2025	19 Mar 2026
Unlocking community energy at scale	11 Nov 2024		
Work of the Department of Energy and Net Zero	11 Nov 2024		
Workforce planning to deliver clean, secure energy	11 Nov 2024	5 Dec 2025	27 Feb 2026

Chair: Bill Esterson MP

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Further information at: <https://committees.parliament.uk/committee/664/energy-security-and-net-zero-committee>

SELECT COMMITTEES



HOUSE OF COMMONS SCIENCE, INNOVATION AND TECHNOLOGY COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
Neuroscience and digital childhoods	24 Mar 2026		
The science and regulation of hair and beauty products and treatments	2 Dec 2025		
Data security across government	24 Nov 2025		
Life sciences investment	2 Oct 2025		
Innovation and global food security	21 Jul 2025		
Science diplomacy	3 Apr 2025		
Digital centre of government	3 Feb 2025		
Under the microscope	13 Jan 2025		
Innovation, growth and the regions	6 Dec 2024	13 Mar 2026	
Innovation showcase	4 Dec 2024		

Chair: Dame Chi Onwurah MP

Clerk: Faten Hussein

Email: commonssitc@parliament.uk

General enquiries: 020 7219 5023

Media enquiries: 020 7219 0731

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Address: Science, Innovation and Technology Committee, House of Commons, London SW1A 0AA

Further information at: <https://committees.parliament.uk/committee/135/science-innovation-and-technology-committee>



HOUSE OF COMMONS BUSINESS AND TRADE COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
Priorities of the Business and Trade Committee for 2026	24 Sep 2025	3 Feb 2026	
Financing the real economy	4 Aug 2025		
Small business strategy	16 Jun 2025	11 Feb 2026	Overdue
UK trade with the US, India and EU	6 Jun 2025	14 Sep 2025	Overdue
The work for the Department of Business and Trade	20 Nov 2024		

Chair: Rt Hon Liam Byrne MP

Second Clerk: Catherine Meredith

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General enquiries: 020 7219 8586

Media enquiries: 020 7219 4984

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Address: Business and Trade Committee, House of Commons, London, SW1A 0AA

Further information at: <https://committees.parliament.uk/committee/365/business-and-trade-committee>



HOUSE OF COMMONS HEALTH AND SOCIAL CARE COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
Children and young people's mental health	13 Feb 2026		
Delivering the neighbourhood health service: estates	12 Dec 2025		
Food and weight management	17 Jul 2025		
Healthy ageing: physical activity in an ageing society	26 Jun 2025		
The first 1000 days: a renewed focus	21 Mar 2025	22 Jan 2026	Overdue
Community mental health services	17 Dec 2024	19 Mar 2026	

Chair: Layla Moran MP

Clerk: Fergus Reid

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Further information at: <https://committees.parliament.uk/committee/81/health-and-social-care-committee>

SELECT COMMITTEES



HOUSE OF COMMONS ENVIRONMENTAL AUDIT COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
Risks and opportunities to the sustainability of data centres in the UK	27 Feb 2026		
Air pollution in England	20 Jan 2026		
The seventh carbon budget	23 Sep 2025	4 Mar 2026	
The environment in focus	5 Sep 2025	19 Dec 2025	
Addressing the risks from Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)	10 Apr 2025		
Airport expansion and climate and nature targets	28 Mar 2025	24 Oct 2025	12 Jan 2026
Flood resilience in England	10 Dec 2024	13 Oct 2025	23 Dec 2025
Environmental sustainability and housing growth	18 Nov 2024	16 Nov 2025	13 Mar 2026

Chair: Mr Toby Perkins MP
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<https://committees.parliament.uk/committee/62/environmental-audit-committee>



THE HOUSE OF LORDS SCIENCE AND TECHNOLOGY COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
Innovation in the NHS: personalised medicine and AI	3 Mar 2026		
Forensic science: follow-up	3 Nov 2025	17 Feb 2026	
Financing and scaling UK science and technology: innovation, investment, industry	20 Mar 2025	5 Nov 2025	3 Feb 2026

Chair: Professor The Lord Mair CBE
Clerk: John Turner
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<https://committees.parliament.uk/committee/193/science-and-technology-committee>



THE HOUSE OF LORDS ENVIRONMENT AND CLIMATE CHANGE COMMITTEE

CURRENT INQUIRIES	Opened	Report	Gov't response
Drought preparedness	24 Oct 2025		
Waste crime	29 Jul 2025		

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The Parliamentary Office of Science and Technology (POST) is an impartial research and knowledge exchange service based in the UK Parliament. POST connects members of parliament with cutting-edge research and evidence. We publish evidence-based, peer-reviewed briefings on a wide range of subjects and have a UK-wide network of researchers and academics ready to share their expertise with parliamentarians. We also help researchers understand parliament and contribute to its work.



POST is supported by a board made up of peers, MPs and experts from the research community, which meets quarterly.

Pictured: POST board meeting, March 2026.

NEW POST RESEARCH

POST research is available to all at post.parliament.uk. Recent briefings include:

WHAT ARE DATA CENTRES AND HOW SUSTAINABLE ARE THEY?

POSTnote, published 16 March 2026

Data centres underpin almost every aspect of modern digital life, yet 27% of the British public say they have never heard of them. This POSTnote examines what data centres are, how they use energy and water, and how sustainable their components and operations really are. It covers cooling technologies, e-waste and the circular economy, local concerns including noise, air pollution and PFAS chemicals, and the developing regulatory landscape. With the UK Government having designated data centres as critical national infrastructure and committed £28.2 billion to AI Growth Zones, read this briefing to understand the environmental trade-offs behind the UK's digital ambitions.

DYSCALCULIA: SCIENTIFIC EVIDENCE AND POLICY IMPLICATIONS

Rapid Response, published 13 March 2026

Affecting around 6% of the population, dyscalculia – a severe, persistent difficulty with mathematics – remains significantly underdiagnosed in the UK compared with dyslexia, despite similar prevalence. This briefing examines the science behind the condition, its lifelong consequences for education, employment and wellbeing, and disparities in research funding. Find out what the evidence says about early identification, effective interventions, improved teacher training and more.

NORTH SEA OIL AND GAS

Rapid Response, published 11 March 2026

How much oil and gas actually remains in UK waters, and where does it go? This briefing charts the state of the UK Continental Shelf, where production has fallen to around 20% of its 2000 peak and is projected to decline further. It sets out the data on proven reserves, explains the North Sea Transition Authority's classification framework, and explores the relationship between domestic production, demand, imports and exports in a changing energy system.

SURROGACY IN THE UK

POSTnote, published 25 February 2026

Surrogacy is a complex issue, and sits at an intersection of law, ethics and medicine. Governing legislation dates to 1985, and the Law Commission of England and Wales and Scottish Law Commission published reform proposals in 2023. This briefing sets out the current legal framework, ethical and human rights concerns, and evidence on health and wellbeing outcomes. We help you understand the current policy landscape and proposals for change of the current legislation.



Left to right: North Sea oil and gas (Rapid Response, published 11 March 2026)
Smart meters (Rapid Response, published 28 January 2026)
Management of legacy landfill (POSTnote, published 22 January 2026)

IMPROVING OUTCOMES AND SUPPORT FOR CHILDREN IN CARE

POSTnote, published 5 February 2026

The number of looked-after children in England has risen by nearly 20% over the past decade, with persistent challenges in health, education and criminal justice outcomes. This briefing examines evidence-based interventions to improve outcomes and outlines policy considerations including funding, tailored training and multi-agency collaboration.

SMART METERS

Rapid Response, published 28 January 2026

Seventy per cent of meters in Great Britain are now smart, but delays, faulty devices and inconsistent consumer engagement have impacted the rollout since 2011. This briefing looks at progress to date, the government's proposed 2030 completion target, and smart meters' role in enabling flexible tariffs, grid decarbonisation and the Market-wide Half Hourly Settlement. With government analysis reporting a net benefit of £3.7 billion, is the programme on track to deliver? Get the full picture here.

MANAGEMENT OF LEGACY LANDFILL

POSTnote, published 22 January 2026

Legacy landfill sites pre-date modern regulations, and there are major data gaps around the environmental risks and potential health impacts. However, research suggests that these closed sites could be releasing contaminants for centuries and are increasingly vulnerable to natural hazards such as coastal erosion. Our briefing takes a look at the environmental risks posed by these pre-modern sites, as well as the regulatory framework and challenges facing local authorities since the withdrawal of the contaminated land fund in 2017.

DEEP SEA MINING: WHAT ARE THE ENVIRONMENTAL IMPACTS?

Rapid Response, published 15 January 2026

Demand for metals to be used in energy technology and construction materials is driving renewed interest in mining the deep seabed. This briefing examines the three main deposit types, the technologies involved, and the still-emerging evidence on ecological harm to poorly understood deep-sea ecosystems. It also considers the contested international regulatory framework, the UK's own position in favour of a moratorium pending further scientific evidence, and the geopolitical dimension as China and the US pursue competing DSM alliances.

ACCESS TO JUSTICE: LEGAL AID AND SERVICES

POSTnote, published 9 January 2026

Changes to legal aid under the Legal Aid, Sentencing and Punishment of Offenders Act 2012 significantly reduced the scope of civil legal aid in England and Wales. More than a decade on, what are the impacts? This briefing maps the key trends, regional disparities in provision, and evidence on outcomes for those with and without legal representation. It also examines how services are meeting the needs of vulnerable populations, providing essential context as policymakers consider what a reformed system could look like.

TECHNOLOGY ALTERNATIVES TO ANIMALS IN LIFE SCIENCES RESEARCH

POSTnote, published 5 January 2026

The UK government published a strategy in November 2025 for replacing animals in scientific research. This briefing assesses emerging alternative technologies including organoids, organs-on-chip and AI-based models, examining where they have the potential to replace animal tests and where significant gaps remain. It covers regulatory hurdles, the validation challenge, workforce and funding barriers, and the potential for a UK sector projected to reach £2.5 billion by 2026.

ARTIFICIAL INTELLIGENCE (AI) AND EMPLOYMENT

POSTnote, published 23 December 2025

AI is increasingly present in UK workplaces, but what does the evidence show about the effects on jobs, productivity and working conditions? This briefing examines how AI is reshaping tasks across different sectors and occupations, its implications for early-career workers and regional labour markets, and the growing role of algorithmic management. Take a look for a quick and impartial introduction to this growing discussion.

CHANGES TO NUTRIENT NEUTRALITY IN ENGLAND

POSTnote, published 17 December 2025

In England, 74 local planning authorities are subject to Natural England planning advice, where building projects only go ahead if they will not cause additional nutrient (nitrogen and phosphorus) pollution that affects protected areas, referred to as 'nutrient neutrality'. This briefing explains what nutrient neutrality is, why nitrogen and phosphorus pollution matters for protected habitats, how mitigation is calculated and accredited, and what new legislative changes mean for housebuilding and environmental protection.

TRANSFORMING THE ENERGY MIX: INSIGHTS FROM 20 NATIONS

Rapid Response, published 9 December 2025

What can 20 major economies teach us about the energy transition? This collaborative analysis from parliamentary research bodies from across the world, including POST, identifies striking commonalities: continuing fossil fuel reliance, fast-growing but politically contested renewables, uncertain hydrogen pipelines, and greater energy need driven by increased electrification. With the US withdrawal from the Paris Agreement adding fresh uncertainty, these findings offer a timely global perspective on the shared challenges of decarbonisation.

SICKLE CELL AND BETA THALASSEMIA: WHAT ARE THE TREATMENT OPTIONS AND CHALLENGES?

POSTnote, published 25 November 2025

Sickle cell disorder and beta thalassemia are inherited blood conditions causing severe pain, organ damage and reduced life expectancy, which disproportionately affect people of African, Caribbean, South Asian, Mediterranean and Middle Eastern backgrounds. This briefing outlines current treatments and novel personalised medicines made possible by CRISPR gene editing, and examines policy considerations such as cost, operational requirements and equity in treatment.

UPCOMING RESEARCH

Keep an eye out for exciting new POST research being published over the next few months, on topics including:

If you'd like to be notified when new POST research is published on topics you care about, sign up for POST email updates at post.parliament.uk/subscribe.

- Pregnancy and postpartum mental health
- Lifelong learning and skills in the UK
- Support for new families and parents
- Research and development (R&D) for UK Defence
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Bookmark the POST website post.parliament.uk to keep up to date with our latest research.

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NEW COMMONS LIBRARY RESEARCH

We publish a range of topical and business-related research online each month. Read about our latest research on science, health, the environment and technology below – you can find more recent research, as well as the full briefings for everything in this article, on our website at commonslibrary.parliament.uk/scienceinparliament.

The UK's plans and progress to reach net zero by 2050

Research Briefing

last updated 13 March 2026

How is the UK tracking against its legally binding target to reach net zero greenhouse gas emissions by 2050? This regularly updated briefing outlines the government's strategy and key policy milestones, examines progress across sectors including energy, transport and buildings, and explores the debates around pace and ambition. Whether you're preparing for a debate or seeking a comprehensive overview of the UK's climate commitments, this is the place to start.

Digital sovereignty

Research Briefing

published 6 March 2026

This briefing unpacks the concept of digital sovereignty, exploring what it means for the UK to maintain strategic autonomy over its digital systems and data. It examines the policy landscape, international comparisons, and the tensions between openness and control in an increasingly interconnected world.

Controls on domestic wood-burning and solid fuel use in England

Research Briefing

published 4 March 2026

Wood-burning stoves and open fires are a significant source of fine particulate air pollution in the UK. This briefing examines existing controls on domestic burning of wood and solid fuels in England, including regulations on appliance standards, fuel quality and smoke control areas. It traces the evolution of policy in this area and outlines current debates about whether the regulatory framework goes far enough to protect public health and improve air quality.

Brain tumours

Research Briefing

published 5 February 2026

More than 12,000 people in the UK are diagnosed with a brain tumour each year. This briefing examines diagnosis, treatment options and survival rates, as well as the challenges facing patients and their families. It outlines government investment in research, the work of specialist charities, and ongoing calls for greater parity with other cancer types. Read it for a thorough grounding in both the science and the policy landscape.

Sustainable Drainage Systems (SuDS)

Research Briefing

published 4 February 2026

Urban flooding, combined sewer overflows and deteriorating water quality are all linked to how we manage water. Sustainable Drainage Systems (SuDS), such as green roofs and permeable paving, offer nature-based solutions to these challenges. This briefing explains what SuDS are, how they work, and the policy framework governing their use in England. It also covers recent legislative changes, implementation challenges and the role of SuDS in tackling both flooding and pollution.

Research and development funding policy, 2019–2024

Research Briefing

published 3 February 2026

Get the full picture on UK research and development funding policy over the last Parliament. This briefing traces the government's ambition to raise R&D investment to 2.4% of GDP by 2027 and examines how public and private funding evolved between 2019 and 2024. It covers key initiatives, spending trends and the implications of the UK's post-Brexit association with Horizon Europe.

Antimicrobial resistance

Research Briefing

last updated 29 January 2026

Antimicrobial resistance (AMR) is a significant threat to public health. This updated briefing examines the scale of the problem and outlines national and international strategies to tackle it. It covers antibiotic stewardship, the challenge of developing new treatments, the agricultural dimension, and progress against the UK's five-year AMR action plan. Discover what's being done, as well as stakeholder recommendations for future steps.

What is 'water bankruptcy'?

Insight

published 26 January 2026

The United Nations published a landmark report on global water bankruptcy in January 2026. But what does 'water bankruptcy' actually mean, and what would it mean in practice for the UK's water system? This short explainer sets out what happens when a country faces water bankruptcy, and what the UN recommends.

Sewage discharges

Research Briefing

published 22 January 2026

This briefing explains why sewage discharges happen, how often they occur, and what the data tells us. It examines the regulatory framework, the role of water companies and Ofwat, and the suite of legal and policy measures introduced to reduce storm overflow use. Read it for a data-rich and impartial overview of one of the most contentious issues in environmental policy.

AI content labelling

Research Briefing

published 20 January 2026

As AI-generated images, audio and video become increasingly indistinguishable from human-created content, how should we ensure people know what they're looking at? This briefing explores the emerging landscape of AI content labelling, including watermarking, metadata standards, voluntary industry commitments and proposed regulation. It also examines the technical and policy challenges involved, international approaches and the UK government's position.

Digital ID in the UK

Research Briefing

last updated 16 January 2026

What does a digital identity actually mean for people in the UK, and what are the risks and opportunities? This briefing explains how digital ID systems work, examines the legislative framework being developed, and discusses the key debates around privacy, inclusion and security. It also covers the government's latest proposals, as set out in the March 2026 consultation – take a look to get up to date with this hot topic.

Clean power targets

Research Briefing

published 14 January 2026

The government has set a target to meet Britain's electricity demand with energy from clean sources by 2030. But what counts as clean power, and where does the UK currently stand? This briefing breaks down the definition, examines how much of UK electricity is already generated from low-carbon sources, and maps regional variation in clean energy generation.

Deposit return schemes

Research Briefing
published 7 January 2026

Scotland, England, Wales and Northern Ireland are all at different stages of introducing deposit return schemes (DRS) for drinks containers. This briefing explains how DRS works, the evidence for its effectiveness in boosting recycling rates, and the differences between devolved and UK-wide policy. It also covers the lessons learned from Scotland's delayed scheme and the timeline for rollout in England and Wales. Find out what's coming and when.

Sewerage connections for new housing developments (England)

Constituency casework
published 5 January 2026

What rules govern how new homes connect to the sewer network? This explainer briefly sets out the legal framework for sewerage connections in England, including the right to connect and the obligations on developers and water companies. It also examines concerns that the system is contributing to pressure on ageing infrastructure and storm overflows.

Air quality: policies, proposals and concerns

Research Briefing
published 8 December 2025

Poor air quality is considered by the government to be "the largest environmental risk to public health in the UK". This wide-ranging briefing covers the main air pollutants and their sources, the legal and policy framework for managing air quality, and the debates around clean air zones and targets. It charts the trajectory of UK policy since Brexit and examines the government's response to World Health Organisation guidelines.

DATA DASHBOARDS

The Library also produces a range of interactive data dashboards, helping you find data at constituency, regional and national levels. Our most recently-updated dashboards include:

Constituency data: Energy efficiency

(data last updated 4 March 2026)

Find constituency statistics on Energy Performance Certificates (EPCs) in England and Wales and Energy Company Obligations (ECO) measures in Great Britain.

Constituency data: Green belt land in England

(data last updated 2 February 2026)

An interactive dashboard providing statistics on land designated as green belt for parliamentary constituencies in England.

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Get impartial, curated research for the day's debates an hour before the Commons Chamber sits from the Commons Library and POST's WhatsApp channel, Research in Parliament.

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SCIENCE DIRECTORY



**UK Research
and Innovation**

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UK Research and Innovation (UKRI) is the largest public funder of research and innovation in the UK, investing £8 billion annually spanning all disciplines and all sectors.

We are nine councils, drawing on our unique breadth and depth of expertise to work with government and other stakeholders to enrich lives, by increasing our understanding of ourselves and the world around us, supporting innovative businesses and public services, and creating high-quality jobs throughout the UK.



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AIRTO, the Association of Innovation, Research and Technology Organisations, comprises approximately sixty principal organisations operating in the UK's Innovation, Research and Technology (IRT) sector. The IRT sector has a combined turnover of £6.9bn, employs over 57,000 people and contributes £34bn to UK GVA. AIRTO's members work at the interface between academia and industry, for both private and public sector clients. Members include independent Research and Technology Organisations, Catapult Centres, Public Sector Research Establishments, National Laboratories, some university Technology Transfer Offices and some privately held innovation companies.

**Applied
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Applied Microbiology International believes that global challenges need to be solved by global, interdisciplinary experts who apply their diverse experience and unique voices to achieve a common goal. Because of this, we're a truly inclusive, international organisation.

With a strong focus on influencing international policy, we are organised around seven goals which align with core UN Sustainable Development Goals and encourage partnership between industry and academia to increase our impact. We publish the leading industry magazine, *The Microbiologist*, and in partnership with Wiley and Oxford University Press, publish six internationally acclaimed journals.

**AWE NUCLEAR SECURITY
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For over 70 years, AWE has supported the UK Government's nuclear defence strategy and Continuous At Sea Deterrence.

On behalf of the Ministry of Defence, AWE manufactures, maintains and develops the UK's nuclear warheads, and applies its unique expertise to support nuclear threat reduction and to protect national security.

The company provides guidance to UK military and police counter-terrorism teams, as well as emergency response in the event of nuclear or radiological incidents.

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British In Vitro Diagnostics Association



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BIVDA is the UK industry association representing companies who manufacture and/or distribute the diagnostics tests and equipment to diagnose, monitor and manage disease largely through the NHS pathology services.

Increasingly diagnostics are used outside the laboratory in community settings and also to identify those patients who would benefit from specific drug treatment particularly for cancer.



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The British Pharmacological Society is a charity with a mission to promote and advance the whole spectrum of pharmacology. It is the primary UK learned society concerned with drugs and the way they work, and leads the way in the research and application of pharmacology around the world. Founded in 1931, the Society champions pharmacology in all its forms, across academia, industry, regulatory agencies and the health service. With over 3,500 members from over 60 countries worldwide, the Society is a friendly and collaborative community. Enquiries about the discovery, development and application of drugs are welcome.



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BSAC is a learned society whose members are among the world's leading infectious disease physicians, pharmacists, microbiologists, and nurses. With more than 45 years of leadership in antibiotic research and education, BSAC is dedicated to saving lives by fighting infection. It does this by supporting a global network of experts via workshops, conferences, evidence-based guidelines, e-learning courses, and its own high-impact international journal. BSAC also provides national surveillance and susceptibility testing programmes, an outpatient parenteral antimicrobial therapy (OPAT) initiative, research and development grants, and the secretariat for the All-Party Parliamentary Group on Antibiotics. BSAC has members in 40 nations and active learners in more than 135 countries.



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The British Society for Immunology is the leading UK charity representing scientists and clinicians who study the immune system in humans and animals.

As a membership organisation, we act as a focal hub for the immunology community, supporting and empowering immunologists working in academic, industry and clinical settings to drive forward scientific discovery and application. We aim to harness the knowledge generated by our membership to ensure society is aware of and can gain from the health benefits that immunology research can deliver.



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The British Society of Animal Science (BSAS), the principal body for animal science in the UK, was established in 1944.

We work globally with members and partners to shape the future of animal science, supporting the advancement of responsible, environmentally and economically sustainable animal production, addressing issues such as the role of animal science in resolving the world's food crisis.

BSAS disseminates research findings to ensure practical and beneficial application of positive outcomes to include livestock, animal health and welfare, the care of equine, companion, and zoo animals.



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The British Society of Soil Science (BSSS) was founded in 1947 and is an established international membership organisation and charity committed to the study of soil in its widest aspects.

The society brings together those working within academia, practitioners implementing soil science in industry and all those working with, or with an interest in soils. We promote research and education, both academically and in practice, and build collaborative partnerships to help safeguard our soil for the future. This includes hosting the World Congress of Soil Science 2022 in Glasgow, where those with an interest in soil science met to discuss the critical global issues relating to soil.



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Brunel University London is an international research active university with 3 leading research institutes: Institute of Energy Futures; Led by Professor Savvas Tassou, the main themes of the Institute are Advanced Engines and Biofuels, Energy Efficient and Sustainable Technologies, Smart Power Networks, and Resource Efficient Future Cities. Institute of Materials and Manufacturing: The main themes of research are Design for Sustainable Manufacturing, Liquid Metal Engineering, Materials Characterisation and Processing, Micro-Nano Manufacturing, and Structural Integrity. The Institute is led by Professor Luiz Wrobel. Institute of Environment, Health and Societies: Professor Susan Jobling leads this pioneering research institute whose themes are Health and Environment, Healthy Ageing, Health Economics Synthetic Biology, Biomedical Engineering and Healthcare Technologies, and Social Sciences and Health. Brunel University London offers a wide range of expertise and knowledge, and prides itself on having academic excellence at the core of its offer, and was ranked in the recent REF as 33rd in the UK for Research Power (average quality rating by number of submissions) and described by The Times Higher Education as one of the real winners of the REF 2014.



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The Cavendish Laboratory houses the Department of Physics of the University of Cambridge. The research programme covers the breadth of contemporary physics.

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Biological Universe: physics of medicine, biological systems and soft matter. The Laboratory has world-wide collaborations with other universities and industry



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CIPA represents virtually all of the UK's 2,600 registered patent attorneys in industry and private practice. We are the UK's largest intellectual property organisation with over 4,700 members, including 1,100 trainee patent attorneys.

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CTPA is the UK trade association representing manufacturers of cosmetic products and suppliers to the cosmetic products industry. 'Cosmetic products' are legally defined and subject to stringent EU safety laws.

CTPA is the authoritative public voice of a vibrant and responsible UK industry trusted to act for the consumer; ensuring the science behind cosmetics is fully understood.



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The Council for the Mathematical Sciences is an authoritative and objective body that works to develop, influence and respond to UK policy issues affecting mathematical sciences in higher education and research, and therefore the UK economy and society by:

- providing expert advice;
- engaging with government, funding agencies and other decision makers;
- raising public awareness; and
- facilitating communication between the mathematical sciences community and other stakeholders



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The Francis Crick Institute is an independent charity, established to be a UK flagship for discovery research in biomedicine. The Crick's mission is discovery without boundaries. We don't limit the direction our research takes. We want to understand more about how living things work to help improve treatment, diagnosis and prevention of human disease, and generate economic opportunities for the UK. In our institute more than 2,000 staff and students use their wide-ranging knowledge and expertise to work across disciplines and explore biology at all levels, from molecules through cells to entire organisms.



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Founded in 1992 in memory of the UK's first female Professor of Physics, the Trust is the UK's leading charity dedicated to realising the potential of scientists and engineers returning to research after career breaks for family, caring and health reasons. Recently, we have expanded our remit to incorporate the social sciences and arts & humanities. Our Fellowship programme, working in partnership with universities, UKRI, charities, learned societies and industry, enables individuals to undertake part-time research in universities and research institutes. Fellowships comprise a research project alongside an individually tailored retraining programme, with additional mentoring and support, enabling recipients to re-establish their research credentials, update skills and redevelop confidence, in a suitably supportive environment.



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EngineeringUK is an independent organisation that promotes the vital role of engineers, engineering and technology in our society.

EngineeringUK partners business and industry, Government and the wider science and technology community: producing evidence on the state of engineering; sharing knowledge within engineering, and inspiring young people to choose a career in engineering, matching employers' demand for skills.



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The Geological Society of London is the UK's national society for geoscience, providing support to 12,000 Fellows (members) worldwide.

The Fellowship encompasses those working in industry, academia and government, with a wide range of expertise on policy-relevant science, and the Society is a leading communicator of this science to government bodies and other non-technical audiences.

The Society aims to be an inclusive and thriving Earth science community advancing knowledge, addressing global challenges, and inspiring future generations.



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X @IBMSscience

Advancing knowledge and setting standards in biomedical science

With over 20,000 members in 61 countries, IBMS is the leading professional body for scientists, support staff and students in the field of biomedical science. Since 1912 we have been dedicated to the promotion, development and delivery of excellence in biomedical science within all aspects of healthcare, and to providing the highest standards of service to patients and the public. By supporting our members in their practice, we set quality standards for the profession through training, education, assessments, examinations and continuous professional development.



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IKE is the UK's professional body for innovators. It accredits and certifies innovation practices. We influence the inter-relationship between education, business, and government through research and collaborative networks.

Our Innovation Manifesto highlights our commitment to support the development of innovative people and organisations. IKE runs think-tanks, conducts research, develops new business models and tools and supports organisations to benchmark their innovation capabilities.

SCIENCE DIRECTORY

Institute of Measurement and Control



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Registration Charity number: 269815

The InstMC is a professional engineering institution and learned society dedicated to the science and application of measurement and control technology for the public benefit. The Institute has a comprehensive range of membership grades for individuals engaged in both technical and non-technical occupations. Also, it is licensed by the Engineering Council to assess and register individuals as Chartered Engineers (CEng), Incorporated Engineers (IEng) and Engineering Technicians (EngTech). The InstMC works to develop the knowledge and skills of individual engineers, fostering communication and advancing the science and practices within the industry.

IOP Institute of Physics

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The Institute of Physics (IOP) is the professional body and learned society for physics in the UK and Ireland.

The IOP's mission is to raise public awareness and understanding of physics, inspire people to develop their knowledge, understanding and enjoyment of physics and support the development of a diverse and inclusive physics community.

As a charity, the IOP seeks to ensure that physics delivers on its exceptional potential to benefit society.



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The Institute of Physics and Engineering in Medicine (IPEM) is the professional body for Medical Physicists, Clinical Engineers and Clinical Technologists working across healthcare, academia and industry.

We are a charity with a mission of Improving Health through Physics and Engineering in Medicine. Our vision is one in which professionalism drives improvements in diagnosis, treatment and care, transforming the lives of patients.

IPEM is licensed by the Science Council to award CSci, RSci and RSciTech, and by the Engineering Council to award CEng, IEng and EngTech.



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The Institution of Chemical Engineers (IChemE) is the UK based and internationally recognised qualifying body and learned society for chemical, biochemical, and process engineers.

We provide a voice to the discipline of chemical engineering, facilitate the development of chemical engineering professionals across a wide range of sectors, and provide connections to a powerful network of around 30,000 members in more than 100 countries.



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The IET is a world leading professional organisation, sharing and advancing knowledge to promote science, engineering and technology across the world.

Dating back to 1871, the IET has over 163,000 members in 127 countries with offices in Europe, North America, and Asia-Pacific.



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LGC is a leading global life science tools company, providing genomics and quality assurance solutions into high growth application areas within human healthcare and applied market segments. Our core purpose is Science for a Safer World.

Our 180 years of scientific heritage, combined with a focus on innovation and value-enhancing acquisitions, has enabled us to build a highly valued product portfolio, and to closely collaborate with our customers, partners and the global scientific community.

As the UK Government Chemist www.gov.uk/government/organisations/government-chemist, LGC acts as the referee analyst and advises Government and the wider analytical community on analytical measurement matters for policy, standards and regulation.

LGC is also the UK's National Measurement Laboratory for chemical and bio-measurement, finding solutions to fundamental and emerging measurement challenges, driving innovation, productivity and economic growth.



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As the world's oldest active biological society, the Linnean Society is an essential forum and meeting point for those interested in the natural world. The Society holds regular public lectures and events, publishes three peer-reviewed journals, and promotes the study of the natural world with several educational initiatives. The Society is home to a world famous library and collection of natural history specimens. The Society's Fellows have a considerable range of biological expertise that can be harnessed to inform and advise on scientific and public policy issues.

A Forum for Natural History



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The Institution provides politicians and civil servants with information, expertise and advice on a diverse range of subjects, focusing on manufacturing, energy, environment, transport and education policy.

We regularly publish policy statements and host political briefings and policy events to establish a working relationship between the engineering profession and parliament.



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The Met Office doesn't just forecast the weather on television.

Our forecasts and warnings protect UK communities and infrastructure from severe weather and environmental hazards every day – they save lives and money.

Our Climate Programme delivers evidence to underpin Government policy through the Met Office Hadley Centre.

Our Mobile Meteorological Unit supports the Armed Forces around the world.

We build capacity overseas in support of international development. All of this built on world-class environmental science.

SCIENCE DIRECTORY



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The Microbiology Society is a membership charity for scientists interested in microbes, their effects and their practical uses. It has a worldwide membership based in universities, industry, hospitals, research institutes, schools, and other organisations. Our members have a unique depth and breadth of knowledge about the discipline.

The Society's role is to help unlock and harness the potential of that knowledge. Our principal goal is to strengthen our culture of being a community-driven Society by amplifying our members' voices, wherever they are in the world, and empowering them to embed the benefits of microbiology within wider society.



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The National Physical Laboratory (NPL) is the United Kingdom's national measurement institute, an internationally respected and independent centre of excellence in research, development and knowledge transfer in measurement and materials science.

For more than a century, NPL has developed and maintained the nation's primary measurement standards - the heart of an infrastructure designed to ensure accuracy, consistency and innovation in physical measurement.



Advancing the science of nature

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We challenge the way people think about the natural world – its past, present and future. We use our unique collection and unrivalled expertise to tackle the biggest challenges facing the world today. We are leaders in the scientific understanding of the origin of our planet, life on it and can predict the impact of future change. We study the diversity of life and the delicate balance of ecosystems to ensure the survival of our planet. We help enable food security, eradicate disease and manage resource scarcity. We inspire people to engage with science to solve major societal challenges.



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The University of Northampton is an institution committed to science education through initial teacher training, a STEM Ambassador network which works within the community and teaching and research to doctoral level.

We are an Ashoka U 'Changemaker Campus' status university recognising our commitment to social innovation and entrepreneurship.



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With 43,000 students and campuses in Nottingham, China and Malaysia, The University of Nottingham is 'the nearest Britain has to a truly global university'.

With more than 97 per cent of research at the University recognised internationally according to the Research Excellence Framework 2014, the University is ranked in the top 1% of the world's universities by the QS World University Rankings.



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The Nutrition Society, formed in 1941, is a diverse community with the independence and courage to challenge, question and progress the field of nutrition.

Through a progressive approach that champions collaboration and breaking down research silos, we welcome members from around the world, regardless of their level of expertise. They must however have a genuine interest in pushing forward the field of nutrition for the benefit of people, animals while balancing the health of our planet too.



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As the largest network of physiologists in Europe, with academic journals of global reach, we continue our 140-year tradition of being at the forefront of the life sciences.

We bring together scientists from over 60 countries, and our Members have included numerous Nobel Prize winners from Ivan Pavlov to John O'Keefe.

Quadram Institute



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The £75m Quadram Institute opened in 2019 and is focused on fundamental and translational research into the interfaces between the gut microbiome, food, and human health.

The Quadram Institute combines leading-edge bioscience capabilities with NHS endoscopy, clinical trials and biobank facilities.

The Quadram Institute is a partnership between the Norfolk and Norwich University Hospital, University of East Anglia, Quadram Institute Bioscience and BBSRC.



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As the UK's national academy for engineering, we bring together the most successful and talented engineers for a shared purpose: to advance and promote excellence in engineering.

We have four strategic challenges:

- Drive faster and more balanced economic growth
- Foster better education and skills
- Lead the profession
- Promote engineering at the heart of society.

SCIENCE DIRECTORY



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RBG Kew is a centre of global scientific expertise in plant and fungal diversity, conservation, and sustainable use, housed in two world-class gardens. Our scientific vision is to document and understand global plant and fungal diversity and its uses, bringing authoritative expertise to bear on the critical challenges facing humanity today. Kew's strategic priorities for science are: (1) To document and conduct research into global plant and fungal diversity and its uses for humanity. (2) To curate and provide data-rich evidence from Kew's unrivalled collections as a global asset for scientific research. (3) To disseminate our scientific knowledge of plants and fungi, maximising its impact in science, education, conservation policy and management. These priorities enable us to curate, use, enhance, explore and share Kew's global resource, providing robust data and a strong evidence base for our UK and global stakeholders. Kew is a non-departmental government body with exempt charitable status, partially funded by Defra.



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The Royal Society is the academy of science in the UK and the Commonwealth comprising 1,400 outstanding individuals representing the sciences, engineering and medicine. The Society has played a part in some of the most fundamental, significant and life-changing discoveries in scientific history and Royal Society scientists continue to make outstanding contributions to science across the wide breadth of research areas. Through its Fellowship and permanent staff, it seeks to ensure that its contribution to shaping the future of science in the UK and beyond has a deep and enduring impact, supporting excellence in science and encouraging the development and use of science for the benefit of humanity.



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The Royal Society of Biology is a single unified voice, representing a diverse membership of individuals, learned societies and other organisations.

The RSB has a central role in facilitating scientific knowledge exchange and in harnessing the expertise of our community to advise policy-makers on key bioscience issues of national and global significance.

Our vision is a world that values biology's contribution to understanding and improving life for all.



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The Royal Society of Chemistry is the world's leading chemistry community, advancing excellence in the chemical sciences.

With over 50,000 members and a knowledge business that spans the globe, we are the UK's professional body for chemical scientists; a not-for-profit organisation with 170 years of history and an international vision of the future.

We promote, support and celebrate chemistry. We work to shape the future of the chemical sciences – for the benefit of science and humanity.



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The Society for Endocrinology has been the UK home of endocrinology for 80 years. Since 1946 we have been bringing together the global endocrine community to share ideas and advance discipline.

As a membership organisation, we support scientists, clinicians, and nurses who work with hormones throughout their careers. We also engage policymakers, journalists, patient, and the public with hormone science to encourage informed health decisions and demonstrate the value of endocrinology to the wider world.



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The SUT is a multidisciplinary learned society that brings together individuals and organisations with a common interest in underwater technology, ocean science, and offshore/subsea engineering.

The society was founded in 1966 and has members from over 40 countries, including engineers, scientists, other professionals and students working in these areas.



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Established by Royal Charter in 1881, SCI is a unique multi-disciplinary community. Set up by a prominent group of forward thinking scientists, inventors and entrepreneurs, SCI continues to be a multi-science and industry network based around chemistry and related sciences. Our charitable objective is to promote links between science and industry for the benefit of society. Our passion is invention and creation. We deliver our charitable objective by:

- Supporting the commercial application of science into industry
- Tackling global challenges across Agrifood, Energy, Environment, Health and Materials.



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Advancing the science of cosmetics is the primary objective of the SCS. Cosmetic science covers a wide range of disciplines from organic and physical chemistry to biology and photo-biology, dermatology, microbiology, physical sciences and psychology.

Members are scientists and the SCS helps them progress their careers and the science of cosmetics ethically and responsibly. Services include publications, educational courses and scientific meetings.



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The Society for Radiological Protection is the principal independent professional body for radiation protection in the UK.

Its members operate in the fields of medicine, the nuclear power cycle and other industries, research, and teaching.

We offer a profession-wide view to regulators and are involved in training and educational outreach. We ensure that professional standards are maintained at the highest levels.

SCIENCE DIRECTORY



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The UK Innovation & Science Seed Fund is a leading patient capital investor with more than £330 million private investment leveraged to date.

The Fund works to build technology companies from the earliest stage by working closely with its partners led by STFC, BBSRC, NERC and Dstl, with the National Research and Innovation Campuses they support, and with entrepreneurial science-led teams.

The Fund is also closely aligned with the Catapults and InnovateUK, helping to commercialise key technological advances in industrial biotech, agricultural technology, healthcare, medicine, clean energy, materials, artificial intelligence, software and space.



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Established in 1964, the University of Essex is ranked highly in the Research Excellence Framework, with 100% of its research impact deemed internationally excellent or world-leading for 10 subjects, and is awarded Silver in the Teaching Excellence Framework.

It is home to world-leading expertise in analytics and data science, with research peaks spanning the social sciences, sciences, and humanities. Pioneers of quantitative methods and AI techniques, Essex is also in the UK top 10 for Knowledge Transfer Partnerships – working with businesses to embed innovation into operations, knowledge exchange and contract research.

Universities
Federation for
Animal Welfare



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Registered in England Charity No: 207996

The Universities Federation for Animal Welfare (UFAW) is an international independent scientific and educational animal welfare charity and membership society. UFAW's vision is a world where the welfare of all animals affected by humans is maximised through a scientific understanding of their needs and how to meet them. We promote an evidence-based approach to animal welfare by funding scientific research, helping develop the next generation of animal welfare scientists and sharing animal welfare science knowledge with both experts and the wider public.

INTERESTED IN TAKING A DIRECTORY ENTRY IN SCIENCE IN PARLIAMENT?

These are available to P&SC member and non-member STEM organisations.

For further details please contact Karen Smith: office@scienceinparliament.org.uk

Science in Parliament journal is circulated quarterly to P&SC subscribing members and all MPs and Peers.

A showcase of British science expertise on nutrition

Taking place on the 11th March in Parliament during British Science Week, this event was co-hosted by the APPG on Nutrition for Development and the Parliamentary and Scientific Committee, to celebrate and showcase the depth and breadth of UK-supported scientific research and innovation on global malnutrition and hunger.

Malnutrition is still the cause of almost half of all deaths in children under five years old, claiming over two million lives each year. Access to good nutrition is foundational to sustainable development, playing a critical role in health, education and economic advancement, in the UK and globally. The UK is home to world-leading universities and research institutions, scientists and researchers, who are making substantial progress on action to address the challenges of global food insecurity, innovative practices in food systems, and next-generation agriculture.

The event brought together and showcase British research institutions working across nutrition, food security, agriculture, and health, including Exeter University, the John Innes Centre, the Agriculture, Nutrition and Health (ANH) Academy at the London School of Hygiene and Tropical Medicine, Reading University, Rothamsted Research and the Institute for Sustainable Food at Sheffield University.

Yasmin Mahboubi, Head of Advocacy and Development, United against Malnutrition and Hunger





STEM for BRITAIN 2026

STEM for Britain is a poster competition to showcase scientific research carried out by early career researchers across five disciplines of STEM: Chemistry, Biological and Biomedical Sciences, Physics, Mathematics and Engineering and to give members of both Houses of Parliament an insight into the outstanding research work being undertaken in UK universities by early-career researchers.

CONGRATULATIONS TO THE WINNERS!



BIOLOGICAL AND BIOMEDICAL SCIENCES

Victoria Norton, University of Reading, The Physiological Society Prize
Aniketh Bishnu, University of Dundee, SILVER
Katie Dunmore, University of Exeter, BRONZE
Zoe Markham, University of the Highlands and Islands/James Hutton Institute, GOLD
Puja Mehta, University College London, The Nutrition Society Prize



ENGINEERING

Tian Yuan, Imperial College London, SILVER
Joni Wildman, University of Bath, GOLD
Goronwy Tawy, Bangor University/University of Southampton, BRONZE



CHEMISTRY

James Gravell, University College London, BRONZE
Jody Cheong, National Physical Laboratory, SILVER
Andrea Rogolini, University of Cambridge, GOLD



MATHEMATICAL SCIENCES

Freya Bull, University College London, BRONZE
Zita Fulop, University of Glasgow, SILVER
Torin Fastnedge, University of Oxford, GOLD



PHYSICS

Isabelle Rogers, University of Leeds, BRONZE
Ané Kritzinger, University of St Andrews, GOLD
Fraser Birks, University of Warwick, SILVER

More information and photographs are available on the STEM for Britain website: www.stemforbritain.org.uk

Photography: John Deehan Photography

